AMERICAN VETERINARY REVIEW.

JULY, 1899.

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EDITORIAL.

THE AMERICAN VETERINARY "JUBILEE."

As the time draws near for the asembling of the veterinary hosts in New York City the evidences multiply that the final year of the greatest century in the history of the world will witness a gathering of veterinarians upon American soil such as was never known in the comparatively short history of veterinary science in this country. More than half of this notable century had passed before the birth of this science; indeed its nativity may be calculated from the inaugural meeting of the United States Veterinary Medical Association in 1863, for prior to that date there was but a handful of qualified men scattered throughout the country, and the profession was without organization. That thirty-six years could bring it from its helpless infancy to its large proportions of to-day, seems but another illustration of that wonderful factor of American character—scientific progressiveness. It is meet, therefore, that this auspicious year should record in its annals that the veterinary profession was in the advance guard of the learned sciences, its ranks thick with bright men willing and anxious to do any labor or undergo any sacrifices that they might add to its glory and its treasures of truths.

The REVIEW is particularly jealous of the successful issue of the forthcoming meeting, not only for the reasons recited, but because this last meeting of the twentieth century occurs in the same city as the initial one of the National Association, and

hence the birthplace of the profession should be the location also of its "Jubilee." In a year of veterinary prosperity, in the heart of the most populous veterinary district of the country, surrounded by states with vigorous associations and with one or more veterinarians on every state and municipal health board, as well as those under the patronage of the Bureau of Animal Industry, to say nothing of the army of private practitioners, it is certainly not an exaggeration of imagination to anticipate a climax of attendance and interest in the approaching meeting. And all of them attracted by this great sextuple event:

The American Veterinary Medical Association;

The New York State Veterinary Medical Society;

The New York County Veterinary Medical Association;

The Association of Veterinary Faculties of North America;

The Experiment Station Veterinary Medical Association;

The Alumni Association of the American Veterinary College (Silver Anniversary).

There can scarcely be a veterinarian in the realm who is not interested in some one or all of these gatherings, and the REVIEW calls upon them to begin now to make preparations to lay aside all other business for the second week in September, 1899, and devote this uninterruptedly to the great "Veterinary Jubilee."

Elsewhere will be found the programme as far as completed, and we print it thus in full in the hope that its tempting contents will induce all those who can possibly leave their homes and businesses to come to Gotham and join their brethren in the great feast of reason and round of pleasure.

THE TUBERCULOSIS AWAKENING.

Although those whose special facilities for study and conclusion entitles them to be classed as authorities positively and persistently proclaim that the milk and flesh of cattle are the most prolific sources of infection to the human subject of the scourge consumption, the importance of the subject is ever and anon being discounted by certain medical men and the press

under the cry of "scare." But the facts are so well established that new evidences of the truth of the statement are constantly coming to view, and it will not down. No amount of gallery talk about veterinarians looking for jobs will discredit the fact that delicate constitutions are taking into their vital systems daily the tubercle bacillus, and that it finding a congenial habitat there will develop into consumption, which saps the life of the host and makes of him a new focus of infection.

The REVIEW discredits as thoroughly as the lay press the proposition to inaugurate a "scare," but it as thoroughly stands for an intelligent understanding of the situation, without covering up the real facts by sarcastic ridicule and political buncomb. We welcome, therefore, the discussion of the subject, as excited by the action of the Governor of Illinois, who has yielded to public sentiment in declaring by statute enactment that all cattle coming into that State shall first have been submitted to the infallible tuberculin test. His action has drawn earnest attention to the subject, the lay press has gone deeply into the matter, and whatever the outcome of the measures taken, the public will be educated along lines that can but eventually redound to the credit of the veterinary profession, since the situation is fermented by unassailable facts, substantiated by incontrovertible proofs.

We adjure our friends of the profession in this crisis to stick steadily to scientific facts, avoiding the emotional phase of the situation, and when the subject again assumes its normal aspect, the lines will have been tightened on the monster which they have been so long combatting.

In this connection, we refer our readers to a long article elsewhere on the methods of control of the disease in the various States of the Union.

THE EDITORS solicit contributions to the department of "Reports of Cases," believing implicitly that through such a medium a great deal of practical knowledge can be imparted to their readers. We have made inquiry of a number of subscrib-

ers, and without exception they testify to the value of such material and assert that they never fail to read every line of it with deep interest. We make a note of the fact that not one who thus commends it ever contributed a line towards its enhancement, yet they were men of large experience, coming in contact daily with cases which would make the department fairly sparkle with added brightness. Each subscriber should feel it his duty to make this the forum of practical discussion.

THE method of administering wood charcoal in acute gastric and duodenal indigestion by first depriving it of its residual gas by heat, as advocated by Dr. Goubeaud before the New York County V. M. Association, is proving very efficient in practice in the hands of a number of veterinarians.

THE COLORADO ANTI-DOCKING LAW.—The following is the text of the bill recently passed by the Colorado Legislature :

SECTION 1. It shall be unlawful for any person or persons to dock the tail of any horse within the State of Colorado, or to procure the same to be docked, or to import or bring into this State any docked horse, or horses, or to drive, work, use, race, or deal in any unregistered docked horse, or horses, within the State of Colorado.

SEC. 2. Within 90 days after the passage of this act, every owner or user of any docked horse within the State of Colorado shall register his or her docked horse or horses, by filing in the office of the county clerk and recorder of the county in which such docked horse, or horses, may then be kept, a certificate, which certificate shall contain the name or names of the owner, together with his or her post office address, a full description of the color, age, size and the use made of such docked horse, or horses ; which certificate shall be signed by the owner or his or her agent. The county clerk shall number such certificates consecutively and record the same in a book or register to be kept for that purpose only, and shall receive as a fee for the recording of such certificate the sum of fifty cents.

SEC. 3. The driving, working, keeping, racing, or using of any unregistered docked horse or horses after ninety days after the passage of this act, shall be deemed *prima faeie* evidence of the fact that the party driving, working, keeping, racing or using such unregistered docked horse or horses, docked the tail of such horse or horses.

SEC. 4. Any person or persons violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction shall be punished by a fine in a sum not less than one hundred dollars nor more than five hundred dollars, and by imprisonment in county jail not less than thirty days nor more than ninety days for each offence, or by both such fine and imprisonment.

ORIGINAL ARTICLES.

CONTRIBUTION TO THE STUDY OF PNEUMONIA IN THE HORSE.—LIGNIERE'S OBSERVATIONS.

TRANSLATED BY ADOLPH EICHORN, ASSISTANT HOUSE SURGEON, HOSPITAL DEPARTMENT OF AMERICAN VETERINARY COLLEGE.

Read before the June Meeting of the Veterinary Medical Association of New York County.

Lignière maintained for a long time that the bacteria of Schutz and the streptococcus of strangles were identical. So that clinically it is impossible to identify infectious pneumonia from strangles. The first often affects horses which have been cured from strangles, but pneumonia in most instances secures immunity to strangles. In other cases Lignière noticed the absence of the bacteria of Schutz in complete hepatised lungs in horses which had died from a typical epizootic pneumonia. This caused a suspicion of the existence of an unknown microbe, giving rise to different pneumonias, where the bacteria of Schutz is absent. After many difficult trials to isolate them, Lignière found the microbe of influenza. He found it in pleuritis, pleuro-pneumonia, infectious pneumonia, influenza, glandular pneumonia, broncho-pneumonia, etc. This may explain the fact that there are cases of pneumonia which for a short while show all the symptoms of influenza, without complications.

It was necessary, therefore, to produce by experiment the typical symptoms of pneumonia. Intrapulmonic or thoracic injections would not give any results, as in this way numerous other microbes could produce pleuro-pneumonia. The task, therefore, is not so easy, as the course of different pneumonias is not the same in every case. He soon succeeded in producing a nicely hepatised lung, in the rabbit, by an injection in the muscles of the thigh. A subcutaneous injection in the horse produces a characteristic pleurisy; for the appearance of pneumonia other circumstances are necessary, which shall be studied

later. Example: June 5, 1897, an old draught horse received a subcutaneous injection of ¼ c.c. of the culture; June 6, large œdematous swelling at the place of injection; temperature 39.7 C. Mucous membrane normal. On evening of June 8 symptoms of pleurisy; death occurred on June 9 at 2 P. M. The immediate post-mortem showed the small intestines in some places hyperæmic; the other part of the intestines normal or slightly reddened; the thoracic cavity contained 5 to 6 litres of cloudy fluid; pleura highly inflamed, lungs congested, otherwise nothing of note. The subcutaneous injection of the culture was performed with all possible care. The exudate in the thoracic cavity contained, besides numerous examples of the injected bacilli, many streptococci of strangles. This proves how easily the streptococcus of strangles grows and multiplies in a body weakened by kokko bacilli. This revelation also gives the key to the etiology.

Infectious pneumonia is the result of the bacilli of influenza; the localization in the lungs is especially produced by a co-operation of the streptococci of strangles. The former prepares the field, and then the latter, which is spread all over, finds an easy opportunity to attack the subject. As soon as the streptococcus begins its activity the typical kokko baccilli clears the field. The following may confirm this: By an inoculation of weak kokko bacilli, together with streptococci, in the peritoneum of the guinea-pig, the latter is only found at the post-mortem. By making a culture in beef-tea of the same amount of Lignière's kokko bacilli and pyogenic or strangular streptococci, it becomes after the lapse of 24 hours a rich streptococci culture. By incubating the kokko bacilli into a four- or five-day-old culture, containing pyogenic or strangular streptococci, which has been passed through a Chamberland filter, the beef-tea remains clear and the kokko bacilli do not multiply. Contrary to this the streptococci grow and multiply very rapidly, in a filtered culture of kokko bacilli. Lignière found the kokko bacilli in every kind of pneumonia, all of which proves that a single appearance of a case of pneumonia does not exclude its

contagious character. A prophylactic injection of a weakened culture of Lignière's kokko bacilli would protect the animals not only from influenza, but also from the different forms of pneumonia. The sick animals would have to receive an anti-typhoid and at the same time an efficacious serum against the streptococci.

The appearance of single cases of pneumonia is due to kokko bacilli, but whether there are other causes of pneumonia is questionable but not excluded. In the meanwhile Lignière had the opportunity to observe influenza in Buenos Ayres, Argentine, and in the Pampas. His inoculation experiments up to that time had labored under the disadvantage of a lack of young horses for his purposes, but here there were enough at his disposal and he succeeded in producing all the natural types of typhoid fever of the horse. The gastro-intestinal form through an intravenal inoculation of ½ c.c. culture, succeeded in producing pleurisy, pericarditis, nervous affections, ophthalmia, icterus and pneumonia. From natural diseases he could make a subcutaneous injection of several c.c. of blood of the sick or dead horse with impunity. One must have a clear idea, as Lignière says, that the Schutz's ovoid bacteria is a streptococcus, which had been seen in 1874 by Friedberger, then by Dieckerhoff, Mendelsohn, Perroncito, Brazzola and Lustig; better observed by Delamotte, Chantemesse, Violet and Galtier. The last authorities have described the Schutz microbe in its true aspect, without, however, identifying it with that of the German observer and call the Schutz's infectious pneumonia "*pneumo-enterite des fourrages.*"

Every form of pneumonia is of typhoid origin—or, better stated, they are "pasteurellas." But how shall we explain the clinical differences which have been justly observed and differentiated by the practitioner?

The kokko bacillus, as all the pasteurellas, acts on the system in different ways—at times with great virulence; it penetrates all the tissues; in other cases the infection remains local, mostly in the intestinal tract, acting with its toxine, which gives an

opportunity to the development of other microbes. In the last case the bacilli may remain in the organism for a long time or may soon disappear. The secondary microbes can make use of the weakened organism, multiplying rapidly and producing death. This is often the course in pneumonia; the clinical picture depends on the changing relations of the kokko bacilli and streptococci. If the kokko bacillus affects the system with great virulence, so that it impresses its mark on the disease, in spite of the addition of streptococci, we have to deal with a case of typhoid pneumonia (influenza complicated with pneumonia). The specific bacilli can have a passing and less intensive part to play, which allows the streptococci to produce its special lesions and symptoms. Consequently the observer is correct in making the symptomatological discriminations. All pneumonias are due to microbes. There are for pneumonia, just the same as for other diseases, predisposing causes, as overwork, cold, heat, etc., but when pneumonia makes its appearance this is then due to the microbes.

The following example should prove what has already been said: In a big stable several horses show slight swellings of the extremities, impaired appetite; they are dull, conjunctiva swollen, temperature 39 C. Shortly afterward, three of them become affected with pneumonia. The symptoms are of typical infectious pneumonia, and not of influenza, the affected animals being four years of age, one of which died after three days. Post-mortem showed dark blood, liver, spleen, kidneys tender, and strong hepatization of the right lung. The culture of the lung contains only the streptococci of Schutz; the one of the kidneys streptococci and coli bacilli. Kokko bacilli were only detected by the inoculation in guinea-pigs, of which one died from pneumouia eight days after the inoculation. Some time afterward another horse became affected, showing the following symptoms: Temperature 41 C., dullness, eyes half closed, lachrymation, mucous membrane dark, small pulse and no localization in the lungs, extremities slightly swollen. Convalescence began five to six days after the appearance of

the disease. These are every-day observations, which may be made by any practitioner.

According to bacteriology, pneumonia can be divided into three kinds:

(1) In which the kokko bacilli work alone and are easily found.

(2) The effect of the streptococci is already significant but not yet general. It is difficult to find the specific microbe.

(3) The streptococci has penetrated the blood and tissues. It is impossible to find the specific microbe.

Diseases produced by experimental inoculations of kokko bacilli have often terminated in streptococci pneumonia, which is done by placing a small collodion sack containing kokko bacilli into the abdomen of a rabbit; the result is a streptococci pneumonia. This experiment in horses will be performed in a short while.

After all this, one may be disposed to remark that pneumonia is typhoid fever of the horse, with localization in the organs of the thoracic cavity, but this would not be correct, as all the characteristics of typhoid fever are not present.

One should talk of it as pasteurella. To this new apprehension one may oppose that typhus of the horse is far more infectious than the pneumonias. Really all the pneumonias are contagious, and if this is less than in the typhoid form it is due to the higher virulency of the microbes in the latter. Often one may notice the enzootic form of pneumonia when in a stable, most of the animals becoming affected. It may be that the streptococci obtain higher pathogenic properties by passing through different passages of the animal's body.

The specific kokko bacilli produce only a relative and not an absolute immunity. Horses may become affected several times from pneumonia. The fact that it is possible to produce immunity through weakened cultures is sure. Lignière did not have the opportunity yet to verify the practical inoculations as he succeeded with it in the pasteurella of cattle.

Most of the experiments were done by the veterinarian

Valtee, who inoculated 5007 horses of the Cab Company, which had been bought from October 4, 1897, until May 12, 1898. All odd numbers received two inoculations, the evens not being inoculated. Five died on account of the culture being too strong. Until October 31, 1898, of the horses which were very liable to become affected by all the different diseases, 254 died of lung affections, among them 96 inoculated and 158 not inoculated. Lignière's absence and the difficulty of the case, may explain the little success. Still, there are effective results from the inoculated ones, which are in the relation of 3:2, and we may hope that Lignière, with his immense diligence, will correct the committed faults, and, above all, establish the correct doses of the culture for preventive inoculations.

CORNSTALK DISEASES.

By A. Bostrom, D. V. S., Minden, Neb.

Read before the Nebraska Veterinary Medical Association, February 21, 1899.

I call your attention to a few facts concerning that inexhaustible subject—"Cornstalk disease."

The cornstalk is looked upon with suspicion, as an agent which sometimes seems to be incompatible with animal life; yet thousands of horses and cattle are turned out to feed upon it every year, and if anything happens to interfere with the natural laws which govern the health and life of the animals, the cornstalk is held responsible for it; and the question is, "What is the matter with the stalks?"

Before trying to answer this question, let us consider the corn-plant in detail. I believe that the corn-plant is subject to the natural laws which govern the vegetable kingdom. We plant the seed, it germinates and grows; we cultivate it, and it gets ripe; we take care of the seeds, and the stalk is left in the field to take care of itself. It is subject to diseases like other members of the vegetable kingdom; both animal and vegetable parasites may affect its growth, of which the vegetable parasites are the most important group, including such pests as: *Smut*,

caused by the fungus ustilago carbo and the ustilago maydis; *rust*, of which the most important is puccinia maydis, and *ergot*, a fungoid disease not only affecting the rye plant but many other species of gramina, such as corn, wheat, etc.

About the time of maturity, the most tender leaves of the plant begin to fall off upon the ground and there they become covered with small fungi, of the genus penicellium, aspergillus, mucor, ascophora, etc.

Small sideshoots, developing only rudimentary ears, die early, and in going through the process of decay contain innumerable numbers of the above named fungi. Now, this is the actual condition of the corn-plant as near as I can describe it.

Burrill, Billings, and others say that they have discovered a germ that is the cause of the cornstalk disease. Others say that the cornstalk contains so much saltpetre, when grown in certain places, that the animals eating it die of saltpetre poisoning.

Now, after considering the various conditions of the corn-plant, let us turn our attention to some of the other plants for comparison.

Clover is subject to the attacks of several fungi, of which the most important is the peronospora trifolium, which exerts its irritating action directly upon the gastro-intestinal mucous membrane, or which produces the formation of a toxic substance which acts particularly upon the liver and the brain, producing what is known as clover disease.

Straw of wheat and oats when damp and going through a mouldy change are affected by various fungi, such as: Tilletia, caries, puccinia, graminis, etc., causing derangement of the intestinal and urinary organs, followed by paralysis and death. We have already seen that the cornstalks are sometimes affected by various fungi, and I am inclined to believe that if the fungi on clover produce clover disease, the fungi on cornstalks are the cause of the so-called cornstalk disease. I have seen both horses and cattle die from eating straw covered with fungi. I have seen hogs die from the effect of mouldy flour. I have had considerable experience with the so-called cerebritis or encephalitis,

described in our veterinary publications as being caused by wormy and mouldy corn, and I believe that all these conditions, the cornstalk disease included, are cases of fungus poisoning. Cornstalks may be the cause of other conditions which frequently result in death. Sometimes cornstalks are cut up and fed to cattle and horses in July and August, when grass in the pasture is insufficient, and, when fed fresh and in limited amounts, I have never seen or heard of any bad results therefrom; but when the stalks have been cut at this time of the year and allowed to remain in the field for a week or ten days, long enough to allow the development of an active process of fermentation, and then fed, I have seen the most serious disease with death following in one-half to two hours of *acute tympanites or metorism.* If seen in time the animal can be relieved by tapping, when after the escape of the gas the animal gets well in a very short time. I do not believe that any other germ except the bacteria of fermentation could be the cause of the production of this gas, and the fact that the tapping and the escape of the gas left the animal well in such a short time is proof enough that this is not a pathogenic bacterial disease. Acute indigestion and gastritis, with or without engorgement, with metastasis to the brain through reflex nervous action, is a frequent occurrence in the stalk fields, and I believe that neither the Burrill-Billings bacillus nor saltpetre have anything to do with it.

Both horses and cattle are liable to overload themselves if allowed to have free access to the stalkfields, especially when first turned into the field; cases of engorgement of this kind are often followed by paralysis and death, especially in cows. Now, regarding saltpetre poisoning, the question is: Is it possible that the corn-plant *can* absorb such an abnormal amount of saltpetre, even if the ground upon which it grows should happen to be very rich in saltpetre? The statistics of chemical analysis of the composition of various plants are regarded as facts by which we can determine the amount of the various kinds of food, and in what proportion they should be supplied, in order to get a certain result.

If it is a fact that the cornstalk, or any other plant, growing under natural conditions, is of such nature that it is a good wholesome plant when grown in a certain place, but a poisonous one if grown in another, simply because that place happened to contain too much of one of the natural ingredients of that plant, then the figures of chemical analysis are very unreliable.

Now, we have seen that the cornstalk may be the cause of *acute tympanites*, *indigestion*, *gastritis* and *fungus poisoning*, simply because it is often eaten in excessive quantity or in bad quality. Straw, hay, grain and flour, fed in the same condition, will produce the same result. But, it is a fact that, while we generally take care of and save all other plants used for animal food, the cornstalk is left in the field to take care of itself, under the influence of all kinds of winds and weather. The dry stalks which stand there in defiance of all the elements of nature have become a mass of woody fibres good for nothing except to cause indigestion.

The most tender parts, such as leaves and sideshoots, fall upon the ground, there to go through the process of decay, the ultimate process of reduction to its original state—dust. These rotten parts are generally eaten by the young stock, going through the active process of dentition, in preference to the other parts, which require active mastication, and the young animal which has eaten almost nothing but these decaying mouldy parts dies of *fungus poisoning*; the older stock more frequently die from *indigestion*.

Early in the fall I think there is some nutriment in the stalks, and there is generally some corn left in the field, and I believe that if cattle and horses are allowed to eat a limited amount at a time, they will do well on it, provided that the organs of digestion are in good order when this sudden change of diet takes place. Mild cases of fungus poisoning we frequently notice as toxic polyuria, caused by mouldy feed. As an accessory cause in the development of the diseases now spoken of, I will particularly mention *cold*. Cold acts as a debilitant if long con-

tinued or severe; it weakens the circulation, especially that of the surface of the body, causes internal congestion, and directly lowers all the vital energies.

In conclusion, I will call your attention to the fact that of all the disease-producing causes, there is no single factor which has so much influence as the quality of the food, and I believe that the cornstalk disease, as well as many other diseases, is the result of the violation or nonapplication of the rules of hygiene.

All plants intended for animal food should be cut when they are ripe, dried and saved properly; water should be pure, plenty of it, and accessible at all times, salt at least twice a week; good shelter and plenty of bedding. When this is observed, disease will be reduced to a minimum.

TRISMUS.

By Joseph Plaskett, D. V. S., Nashville, Tenn.

Read before the Tennessee Veterinary Medical Association.

I feel that I am making an error at the outset of this paper in choosing for the caption of it the term trismus. The question has been asked "What's in a name?" and the assertion made that "a rose by any other name would smell as sweet," and we would be led to believe from this that names as a rule are immaterial, and have not much significance attached to them. I have chosen the term trismus for it, because the pathological process which we term trismus is one of the characteristic indications of this disease. While it is invariably present, still it must be remembered that it is only one of many symptoms, and that it is always associated with others, in the trouble of which I speak. A careful search through all the veterinary literature at my command has failed to reveal the slightest mention of such a disease as the one I am about to attempt a description of. Consequently the effort I present to you is drawn entirely from a rather imperfect memory of such cases as I have seen, and for this reason I trust that its errors

and imperfections will meet with the consideration at your hands which should always be extended to one in such a position. Before entering on a description of this disease, I wish very emphatically to impress on my hearers the point that I have not written on this subject with the idea that I am in any way specially fitted or competent to do so. I have not carried out any original investigations, neither have I made any special study of the trouble, and my only object in presenting it is to learn the views of the other members as to the pathology, treatment, etc., and see if they coincide with my own.

In regard to the distribution of this disease I believe it to be indigenous to the Southern States, as I have never witnessed it in any other portion of the country. I was connected with the hospital of the Veterinary Department of McGill University for four years, and never saw a case of it while there, and were it at all common in the Northern or Eastern States, the progressive veterinarians at those sections would have shed more light on the subject than seems to illuminate it at present.

It seems to be much more prevalent during the summer months and is seen most frequently in extremely hot weather. However, I have seen one or two cases during cold weather, but these do not seem to be of such an aggravated form and are more amenable to treatment. In attempting to present a theory as to the pathology of, or as to the cause for this trouble, I am at a loss to know how to begin and can only surmise on the subject and give you my theories for what they are worth. I have thought it probable that it was connected in some indirect way with some derangement of the digestive organs. That the central nervous system is responsible for the direct manifestation of the trouble I do not think there can be any doubt, but the confusing part is as to how these organs become affected. In the majority of the cases I have seen there has been a history of indigestion just previous to the attack and I had thought that the perverted functions of these organs had in some manner generated a poisonous principle, be it toxine, ptomaine, or digestive ferment, and that the resorption of this into the system

had affected the nerve centres in the manner I am about to describe. But other cases I have seen would seem to indicate that we must look to something else as the causative factor. I have frequently seen it follow as a result of over-exertion, as, for instance, a fatiguing drive on a hot day, especially if the animal has been laid up for a few days and is soft and unfit for such labors. Again, I have seen two or three typical cases in which I could ascribe the cause to nothing else but fretting and nervousness. Two, I remember, were brought about by separating mares from their offspring and the animals being of a highly nervous temperament (both thoroughbred), the worrying and excitement in a few hours brought on a typical case of this disease. Another case developed during a difficult and protracted obstetrical case, which required two or three hours time and considerable traction to relieve, and during this time the mare developed trismus, which rapidly went on to a fatal termination. And again I have seen cases in which I was utterly at sea in finding any cause, as the animals were either at pasture or would develop the disease while pursuing their daily work, and in both cases surrounded by apparently the same conditions as they had been for several weeks.

I will now attempt to describe the symptoms as they have presented themselves to me and as correctly as my memory will permit. In some respects this disease quite closely resembles tetanus and might be considered as a pseudo form of that disease. But there are several distinctive differences, and though it is nearly always called "lockjaw" by the laity, it is never mistaken for true tetanus by a qualified veterinarian. I have never seen a case until after the disease had made some progress, but according to reports the first symptom noticed is a general uneasiness, which manifests itself by restlessness, and is quickly followed by a profuse perspiration. Almost from the first trismus is present to such a pronounced degree that severe muscular efforts are unable to prize the jaws apart. Sometimes a careless owner's first intimation that anything is wrong is that after a hard drive on a hot day he is unable to get the bit out of

the horse's mouth when he drives in the stable. That peculiar clonic spasm of the diaphragm commonly known as "thumps" is frequently present to a marked degree, but I have known numerous cases in which it was entirely absent. The pulse is accelerated, and the temperature elevated sometimes as much as seven or eight degrees.

Unless the merciful intervention of the *vis medicatrix naturæ*, or the efforts of the attending veterinarian have produced some amelioration of the symptoms described, these are quickly followed by more serious ones. The uneasiness and excitement increases, and manifests itself by a desire to keep constantly on the move in the limits of the area in which the animal is confined. It never assumes a recumbent posture, keeping stubbornly on its feet, and only goes down when too exhausted to stand any longer, and as a rule never rises again. In addition to the contraction of the masseter and other muscles of mastication, we now notice that nearly all the muscles of the body are in a state of tonic spasm. This is usually more particularly noticeable in those of the hind extremities, but its general effect is best shown in the gait of the animal. It moves around almost as if his legs had been replaced by stilts, and it might be supposed that all the joints in his limbs were anchylosed. The result of this is a peculiar stumbling, jerking gait, and I have seen it to such a pronounced degree that were it not for the loss of flexion in the hocks, the jerking of the hind limbs might be mistaken for an exaggerated case of stringhalt. The perspiration streams from every pore, and the breathing, especially those cases in which the diaphragm is involved, becomes quick and laborious. There seems to be an uncontrollable desire for the animal to keep in motion, and even if he be haltered up the limbs seem automatically to keep up the incoordinated movements of which I have spoken. The sudation and dyspnœa increase, and the animal, with distended nostrils and streaming with perspiration, stands a picture of agony and distress until death relieves him of his suffering.

In those cases in which recovery takes place the restlessness

subsides almost as quickly as it appeared, the jaws relax, and in the course of two or three hours the animal is eating and is apparently as well as ever.

In regard to the treatment of this malady I might say that my efforts in that direction have not been attended with any startling degree of success. A line of treatment which I have considered efficacious in one case, and which has been followed by the recovery of the patient, has proved itself of no value in ameliorating the symptoms of the next. Whether the treatment produced the result in the first case, or whether recovery took place in spite of the treatment, is still a disputed point in my mind. On account of the extreme trismus always present oral medication cannot be resorted to, and we have to rely on the subcutaneous, intravenous, or rectal methods for the administration of our drugs. If I reach the patient in the early stages of the disease, I have usually resorted to venesection and the abstraction of six or eight quarts of blood from the jugular, as the first step in the treatment. Afterwards the hypodermic administration of sulphate of morphia, five grains, repeated if necessary after one or two hours, has seemed to give better results in my hands than anything else. To quiet the extreme restlessness I have also used fl. ext. cannabis ind. hypodermically, with sometimes fair results and sometimes no results at all. Eserine and pilocarpine, to relax the muscular spasms, have also had a trial at my hands, as has also the intravenous injection of barium chloride. But none of these have produced the results hoped for, and I have come to the conclusion that in some cases the physiological effect of any drug or all drugs is entirely wanting, whilst in others its administration is followed by the happiest results. I have thought for some time that the next case I had I would try the effect of producing general anæsthesia, and see if it would produce any permanent effect on the contracted muscles. However, Dr. W. C. Rayen, of this city, tells me he once tried it with no beneficial results. The best results I have obtained have been from phlebotomy, followed by the hypodermic administration of morphia, but my

best results have not been eminently satisfactory either to myself or to the owner of the patient.

The duration of the trouble is from two or three hours to fifteen or twenty, though as a rule if the animal shows no sign of improvement after the first few hours have elapsed, I always consider the prognosis a grave one, especially if the owner has trusted the patient's future destiny to my tender mercies. I usually give an unfavorable prognosis if the case is an aggravated one and no improvement has followed the usual remedies, or if, as is often the case, the animal gets steadily worse in spite of everything that has been done.

I have held one or two post-mortems, but failed to find anything more abnormal than a slight congestion of the intestines and also of the membranes of the brain; though I must admit the autopsies were not as carefully performed as they might have been.

In conclusion, I hope that the discussion this paper will excite will throw light on this rather peculiar disease, and will be the means of disseminating some much-needed knowledge among my brother practitioners and myself. I know that all of the members present must have seen similar cases, and if they will give their experience with it, unfavorable and disastrous even though it be, as freely and unreservedly as I have, I trust that all of us will feel ourselves benefited by having had this subject brought before us for our consideration.

TUBERCULOSIS.*

By L. A. Merillat, V. S., Chicago, Ill.,

Chairman of the Committee on Tuberculosis of the Chicago Veterinary Society.

The limited time assigned me does not admit of any lengthy discussion of the subject of tuberculosis of domestic animals. It will be simply my aim as Chairman of the Tuberculosis Committee of the Chicago Veterinary Society to mention, in a few

* An address delivered at the organization of the Illinois Society for the Prevention of Tuberculosis.

words, the function of the veterinarian as an active member of such a society as is being born here to-night: a society that undertakes the herculean task of exterminating tuberculosis from the human family.

When it was demonstrated beyond doubt that human and bovine tuberculosis are identical the veterinarian at once became a more potent factor as a public sanitarian, and especially since tuberculosis was added to the other numerous diseases that are directly transmitted from the lower animals to man the veterinary profession has never for one moment relaxed its efforts in the campaign of extermination. We have been brought face to face with the important duty of striking directly at the cause or at least the purveyor of diseases, not only in the case of tuberculosis, but also many other diseases and conditions of milk- and meat-producing animals.

And now that a movement is on foot in Chicago to wage war against tuberculosis we, the members of the veterinary profession, are here, prepared to shoulder that share of the burden which belongs to us, namely, the control of the sale of tuberculous products—milk and meat—with the ultimate aim of exterminating tuberculosis from the animals which produce them.

From the very onset this soeiety will doubtless endeavor to exhaust every means and utilize every known weapon at its command to accomplish its purpose, and in doing so it is to be hoped that the matter of regulating one of the chief sources of tuberculous infection will receive early consideration. In this I refer to the dairies and the milk supply of our city. Tuberculous meat, unless eaten raw or too rare, is not such a dangerous product, but milk and butter being consumed in a raw state are now recognized as among the chief conductors of tuberculosis from the domestic animal to man by the best authorities of this country and Europe, and as it has already been demonstrated that tuberculosis is very prevalent among the dairies supplying the city with milk, it is our duty to recommend steps for the control of the sale of their infected products.

Unlike other large cities and even smaller ones Chicago has never agitated the matter and nothing has ever been done to better the condition of our milk supply. In this connection as members of this society the duties of the veterinarian are plain. It will fall to our lot to present, for your consideration and discussion, sensible and practical methods of dairy inspection; methods which will result in the most good and will work the least inconvenience and loss both to the consumers and producers of milk, and at the same time be the least expensive to the public.

The task of purifying the enormous milk supply of Chicago would, on casual notice, seem an equally enormous and expensive undertaking, but that this is not the case is exemplified in the experience of other cities where the sale of tuberculous milk is actually controlled at very little public expense. Minneapolis is probably the pioneer in this work and Chicago could do no better than profit by their experience. This I mention to show the feasibility of cutting off one channel by which the human body becomes infected with tuberculosis.

Now a few words on the extermination of tuberculosis from the domestic animals, which is a more difficult proposition than regulating the milk supply. To attain this end is quite as difficult as in the case of human tuberculosis with the possible exception of the ground the veterinarian gains through the slaughter of infected subjects, which of course the human sanitarian can never enforce. It is, however, safe to predict that human tuberculosis will exist as long as bovine tuberculosis exists and *vice versa*, and that one can never be exterminated without the other. Laws must be enacted, appropriations must be obtained, sanitary and other measures branching in many directions must be adopted, the public must be educated as to their needs and their danger, and finally many points of vital importance must yet be decided by the researching contingent of the medical and veterinary professions.

The slaughter of all diseased animals, the disinfection of their habitats, together with the establishment of strict quaran-

tine against diseased animals, would in due time accomplish the desired results. But the enforcement of such radical measures, with the opposition they would meet, is nothing short of an impossibility. It will be necessary to inaugurate a long, tedious campaign of education with literature such as this society intends to distribute. The owners of tuberculous herds must be shown the fallacy of harboring diseased animals. They must be taught that the adoption of certain sanitary measures, easily within their reach, will eventually result in the elimination of tuberculosis as well as other diseases from their farms and dairies. The process will be slow but sure and at least profitable to them.

In this campaign the veterinarian meets with the same barrier as the medical profession in that the owners of live stock do not recognize their danger. Acute contagious diseases which abort or kill rapidly arouses them, but slow, chronic and occult conditions, such as tuberculosis, do not awaken the least fear.

The work will therefore be complicated and tedious, and the Chicago Veterinary Society directs me to offer this new association its earnest and energetic collaboration.

In conclusion, I wish to present the following summary of the points we are prepared to demonstrate, and upon which we wish to act :—

1. That the tuberculin test for bovine tuberculosis is sufficiently reliable to be practical.

2. That the salé of milk from tuberculous cows should be absolutely prohibited, and that the apparent absence of tuberculous processes in a cow's mammæ is not an assurance of non-infectious milk.

3. That tuberculosis is raging among the dairies supplying Chicago with milk, and that the population of Chicago is being infected with tuberculosis through its milk supply.

4. That a proper veterinary inspection of the dairies will eventually result in purifying the supply, and that such inspection can be conducted at very small public expense.

5. That the work should be directly under the control

of the City Health Commissioner, who in turn should collaborate with the State officers in their efforts to exterminate the disease.

"CORNS."

By Theodore A. Keller, D. V. S., New York City,

Read before the June Meeting of the Veterinary Medical Association of New York County.

A few remarks concerning this trouble of the horse's foot will probably be useful to some of the members present.

Corns generally make their appearance in the inner heel, within the bar and crust at or near their junction. We find that a great number of horses are afflicted in this way; and it is supposed that an imperfect system of shoeing has more to do with the production of corns than anything else.

In their acute stage corns generally cause some degree of tenderness, though not amounting to actual lameness. If not attended to at this period, the horse soon becomes lame; and when the shoe is removed for examination, the horny matter in the parts described will be found, upon scraping off the exterior surface, of a dark red color, to a greater or lesser extent, according to the length of time it has existed, or rather to the degree of injury the sensitive parts have sustained. If the shoe be not removed at this stage, its continued pressure on the tender parts, or corn, will at length cause pus to form, which, finding no vent beneath, ascends to the coronet, where it breaks out. Even this is sometimes mistaken for a tread, or blow from the other foot, while the real cause is lost sight of.

In the treatment of corns in their recent state, or before suppuration has taken place, the method generally adopted is to pare out the red parts, or what is termed the corn, and so contrive the shoe that, when applied to the foot, it may have no bearing on the tender part. This in slight cases generally affords temporary relief, and enables the horse to go to work again; but in a short time, however, the horse's weight causes

the shoe to again come in contact with the heel, and the inflammation and lameness of course return.

The only effectual mode of taking off pressure from the heel is by means of the bar-shoe, and this can only be applied where the frog is sufficiently prominent and firm to receive its pressure. For should the frog be considerably lower than the heels (viz., less prominent), it must be obvious that the bar-shoe cannot bear upon it, and will therefore be useless. The only thing to be done in this case is to pare away the crust of the tender heel, so that the heel of the common shoe may not rest upon it. I am aware that the original cause of corns is often a natural weakness of the inner heel, or want of sufficient strength in the horn to protect the sensitive parts from pressure of the shoe. We have frequently seen the plan of cutting away the horn (in corns) followed with success, on account of the temporary relief it affords; such a plan, however, is deceitful, and dictated by too shallow an idea of the complaint, for though it gives for the time some relief from the pain when existing, still it leaves what may be termed an increased disposition to it, because it deprives the sensitive parts of the protection of which they already stood so much in need; and it is from this mode of treatment solely that some horses are so frequently, and indeed almost always, affected. The best plan, therefore, is to apply a bar-shoe, as this affords more ample means of throwing the pressure off the affected parts; no excision of the horn ought to be resorted to, unless there is reason to believe that suppuration has taken place. If no horn is to be pared away in corns, what, I would ask, is to be done in circumstances where the bar-shoe cannot be employed—that is, where the frog is much "lower" than the heels, or too rotten and tender to bear pressure?

I am inclined to believe that corns are often rendered inveterate by trusting to such ineffectual means; for the owner, finding his horse relieved, sets off, perhaps, on a journey; the shoe soon bears down upon the heel again, and the bruise or corn is much aggravated; by dint of spur and whip, however, the horse is compelled to go on; and when he arrives at the end of the

stage, so high a degree of inflammation wtll perhaps have taken place that suppuration cannot be prevented.

While a horse is worked, the shoe should be frequently examined; and whenever the heel appears to be so near the diseased part as to be in danger of bearing on it, it should be immediately removed, and some more horn pared away, so as to have a considerable vacancy between the heel of the hoof and the heel of the shoe, for even if a bar-shoe be applied, the horn will in time grow down, so as to be in contact with the heel of the shoe.

The above is supposed to be about all that is required for corns, but will it cure corns? In some cases it will, in some it will not. It will not cure necrosis of cartilage nor necrosis of the os pedis, neither will it prevent lameness from ossification of the cartilages and the inflammation accompanying it. These and other inflammatory conditions of the heels, falsely called corns, must be treated by more radical measures.

MEAT AND MILK INSPECTION.

By H. F. Palmer, V. S., Brooklyn, Mich.

A Paper read before the Michigan Veterinary Medical Association at the recent meeting at Lansing.

"*Guard the food of the people and you guard their health.*"

We, as a nation, have just passed through a struggle that has cost the lives of many of her brave sons, and out of that struggle has grown a controversy in regard to the food of its army. "Embalmed beef," "rotten beef," are the words upon the lips of many. We view these published statements and record the word "awful," and at times are inclined to dethrone our own beloved secretary of war, and at the same time we allow a food to be given to our own family—yes, and to our own children, that for the number of deadly bacteria contained the Cuban beef would be a sickly comparison.

We wonder and abhor at the death rate of our wars and think it is something terrible; but we rest content and each

year see more deaths from drinking tuberculous milk than if to-day England and our own country should be engaged in a deadly warfare.

No arguments are needed at this time and before such a gathering to show that inspection is necessary and will save many lives each year, but the main questions with which we are concerned are, "Who shall inspect? How shall we inspect?"

The people of the United States use more meat per capita than any other country save Australia, this being a section where meat is cheap and abundant. Inasmuch as this constitutes one of our principal articles of diet, it should be inspected. In 1881 our pork was prohibited entrance into Germany, France and the principal European countries, because it was thought to be infected with trichinæ. In 1881 congress directed the secretary of agriculture to inspect, previous to slaughter, all cattle, sheep and swine, the carcasses of which were intended for interstate or foreign trade. To-day all the beef sent to Europe, and a greater part of all pork and meat products is inspected. To-day we send pure, wholesome meat to feed foreigners, while we are eating the uninspected, germ-laden products.

The bureau of animal industry is doing a grand work along the inspection line, but as yet a lack of sufficient means cuts short some contemplated work. This bureau has been in existence some fourteen years, and we can partially realize the scope of its work by glancing at its last yearly report.

Meat inspection was in operation in 135 abattoirs located in thirty-five cities. Our fifty-one million animals were inspected, of which the inspectors rejected many thousand carcasses. They sent out enough tuberculin to test 50,000 head of cattle, and gave half a million doses of vaccine, reducing mortality on this disease from fifteen to one per cent. They have given to the hog-raising section of our country a great boom in the serum treatment of hog cholera whereby 80 per cent. of affected animals can be saved. Helped the cattle industry by working up

a harmless dip for cattle whereby the tick of Texas fever can be destroyed.

Of course all this work necessitated the outlay of thousands of dollars, but here is one forcible illustration of a penny spent is a dollar saved. With an average cost of less than one cent apiece for inspection, who can value the saving to the people? Many lives were thus saved, to say nothing of the suffering and distress that was greatly decreased.

We demand that the meat sent to foreign countries shall be inspected; while we—yes, you and I, are compelled to eat the uninspected meat. There are many inconsiderate and unscrupulous butchers who stand ready to buy that which cannot be put on the foreign market, and prepare it for the home market; and they will do that thing just as long as there is no one appointed whose business it is to see that condemned meat is put in the tank with the offal and made into fertilizer.

The immediate charge of inspection is given to those veterinarians who have entered the service by a competitive examination. It has been proven, the persons obtained from such examination, one of the requirements of which is that they must be graduates of a regularly recognized veterinary college, are more competent and efficient than non-professional men. The inspectors were placed in the classified service in 1894.

There are certain diseases among animals that render the flesh positively dangerous to use as food—such as anthrax, septic conditions, malignant œdema, and foot and mouth diseases. Others may not be positively dangerous, but should be used with suspicion, as tuberculosis, actinomycosis, Texas fever, swine plague, and any disease that causes a rise of temperature. Others although not dangerous to use as food would be considered very loathsome, as those that are drowned, smothered, the unborn, females in parturient state, and flesh containing parasites.

All animals should be inspected previous to slaughter, as many conditions are there found that would not be detected in the carcass. Fever, fatigue, exhaustion, starvation and excite-

ment can be readily detected on ante-mortem examination and they all affect the quality of the meat.

Education is a great factor in inspectors' work. Those who never see the flesh prepared for food would be horrified to view certain parts that are perfectly wholesome.

A man may think there is no harm in the consumption of tuberculous milk or meat, as no case can be directly proven where such milk or meat caused the disease in the human. In this case they will not accept circumstantial evidence but those same persons would be the twelfth man of a jury willing to incarcerate a man at Jackson the rest of his natura llife on circumstantial evidence alone, and that no stronger in one case than another. Experiment has shown that pigs fed on tuberculosus milk will contract the disease, and can we think the human family are less susceptible to such diseases than our friend—the hog?

Milk is another important factor in the food supply of our people. Some of us may be vegetarians and refrain from the use of meat, but all of us got our start in life by that one factor milk, this being the only product of nature that combines all elements requisite to a healthy condition. Milk is the natural food of all infants and invalids. Being consumed at that period of life when the body is so susceptible to disease, how careful ought we to be to see that our milk supply is pure and wholesome.

Milk is the most universal product in use. It is estimated that it would take a tank twenty-five feet high and covering one acre to hold the supply used by our people in one single year.

Previous to the year 1870 milk was not known to carry the germs of disease, but it is now proven beyond a shadow of a doubt that milk is one of the disseminators of disease. The temperature just below the body temperature, the most natural one at which milk is kept, is the temperature best suited for the growth and multiplication of germs. Normal milk from a healthy cow is free from bacteria, but there are many ways in which infection may take place. The animal itself, the hands of the milker, and the dust of the stable are each liable to share

its quota of germs with the innocent milk that is being prepared for food.

If milk could be obtained perfectly free from bacteria, its keeping properties and its high value as food would be assured but when we think of miliions of these germs in every gallon of commercial milk, any one of which may find a lodging place in our system, and cause our death, should we not be a little careful of the kind of germ we are devouring?

The milk standard is set at the following figures by this state: Twelve and one-half per cent. of total solids, 3 per cent of butter fat, specific gravity between 1.029 and 1.033. Specific gravity of skimmed milk should be from 1.032 to 1.037, and may be sold from cans plainly labeled "Skimmed Milk."

However, at this time we are not as much concerned about the per cent. of butter fat, whether we are buying the milk first drawn from the udder and letting the calf have the last and best, and whether the milk supply is drawn from a herd of pure bred Jerseys or just grade cows, but we are more concerned about the method of handling that milk, the healthiness of the animal producing it, and whether or no the man who milked that cow had any disease that could be transmitted to our family by means of that milk.

Tuberculosis, typhoid fever, cholera infantum, diphtheria and scarlet fever are some of the dangers lurking in commercial milk. These dangers are perhaps greater in the use of milk than meat, for milk is commonly used in the raw state while many of the germs of meat are killed by the cooking of that meat. It is said that cholera infantum or milk diarrhœa causes one-fourth the deaths of all infants, while one-fifth of the infants are victims of tuberculosus milk. Is not this then a strong plea for universal inspection of milk?

It is an easy matter to sit down and outline ideal conditions for the handling of milk, but the commercial aspect hinders the carrying out of such an ideal. When we consider that the milk, coming as it does in sharp competition with uninspected milk, and must be sold for a few cents a quart, we can realize why so

much of our milk is uninspected. Educate the consumer and he will be willing to pay the few added cents to each quart of milk in return for receiving pure, wholesome and inspected milk.

And now a few words as to the way inspection of both milk and meat could be bettered. Certainly the United States and each State should work in unison, so that there may be a strict uniformity of laws. All meat should receive the inspector's stamp before it comes to the consumer, even to that piece dealt out by the one-horse wagon that calls at your door. Perhaps this cannot be accomplished with the great number of slaughtering establishments as at present, but I should concentrate these establishments and have municipal abattoirs. There the small butcher who uses but one or two carcasses a week may have all the advantages of killing floor, cooling room and inspector's stamp, as the dealer who uses his eight or ten a day. Inasmuch as inspection adds to the selling value of meat, the owner of those carcasses should pay the added cost of inspection.

All milk dealt out should also be inspected. This does not mean the milk alone, but the inspection of that milk should begin with the animal that produces it. She should be free from disease, in a thrifty condition, kept in clean, well-ventilated quarters and fed on pure, wholesome food. Ensilage, decaying vegetable matter and various other things are known to give a taint to milk. All things used about the milk and milk room should be scrupulously clean. Attendants should be free from communicable diseases. If the milk when first drawn is Pasteurized or heated to 167 degrees F. and kept there forty minutes by live steam and then at once bottled ready for the consumer, many of the deadly germs will be destroyed and no harm done to constituents of milk. Abandon the old form of milk ticket, so that one day it will not be handled by a scarlet fever patient, and the next by a person just in the right condition to help the growth of the few germs adhering to that same ticket.

Inasmuch as the health of our domestic animals plays so important a part in the health of our people, I would say, place

a veterinary surgeon on every State Board of Health. The people need to be educated to know what veterinary science is doing and can do for them to better the sanitary condition. A virulent disease transmissible to man breaks out among our domestic animals. It is at once recognized by the competent veterinarian, measures are taken to prevent the spread of the disease, and who can tell the number of lives saved by his timely work.

Education is the keynote in all this work. Educate the butcher, the consumer, the meat dealer and the dairyman, and you add one item to universal inspection. Give to the dairy schools of our country your hearty support, and the day will soon come when we can eat a piece of meat or drink a glass of milk and have no fear of consuming deadly germs.

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

SORE MOUTH IN CATTLE.

By A. E. METZGER, M. D. C., Clyde, O.

In reply to Dr. Fulstow's paper on this subject in June number of REVIEW I will state that I experienced an outbreak of the same disease in the vicinity of Clyde, O. The first symptoms manifested were those of sore mouth, profuse flow of saliva and inability to eat anything unless forced back under the molars, when they ate readily. Dropping off in the flow of milk was another early symptom, in some instances being totally suppressed. The udder in some cases took on a red and in others a purple appearance. The same irritable condition of the mucous membranes seemed to exist throughout the body. There was a flow of mucus from the eyes and nostrils, in most cases tinged with blood. The bowels were invariably constipated, fæces hard and covered with a bloody mucus. The lameness developed usually in from two to five days after the foregoing symptoms were noticed. There was no perceptible swelling of the limbs, but the feet were hot and slight pressure between the digits caused excruciating pain. My treatment was principally local and consisted in a creolin wash

to remove the fœtid stench, a powder composed of hydrastis and potassium chlorate, together with a mild laxative of soda sulphate. Recovery invariably followed in from seven to ten days, although the lameness was present for a much longer time, often lasting three or four weeks.

Like the Doctor, I was at first guarded in my diagnosis, thinking they had eaten some poisonous weed, but later it became a marked epidemic; whole herds were sometimes affected, while in others only one or two would show symptoms of the disease, while one cow in particular developed the disease in a severe form that had been stabled continually, fed on hay and grain, with no chance for contagion from other cattle or from pastures; later several cases developed in different herds of hogs, all manifesting the same symptoms, viz.: sore mouth, discharge of mucus from eyes and nose, together with lameness, several of them having to be killed because of the hoofs sloughing off.

After this experience, I pronounced it epizootic aphtha, or foot-and-mouth disease. Possibly I may be wrong, but the symptoms are very much the same.

Like the Doctor, it is information I am after, and if any other brother has had a like experience I would be only too glad to hear from him.

VESICULAR SKIN ERUPTIONS IN THE DOG.

By Francis Abele, V. S., Quincy, Mass.

Was to called only fox terrier bitch, highly bred, very tender skinned. Owner had three or four, all matured. Was living at the beach. Bitch had vesicular eruptions on face and front feet, most severe between toes and about eyes, evidently the places she could rub most. Did not have the old scurfy appearance of mange, nor the inflamed appearance of eczema, but simply minute vesicles just as close as they could be grouped. It looked like a typical case of ivy poisoning if it had been on a person. Diagnosed it as such here. Bathed with hot water followed by an an ointment of

℞ Creolin, ʒ iij.
Ac. borac., ʒ j.
Ol. olivæ, q. s. ad ʒ iv.

Misc. et fiat mistura. Sig. To be applied three times a day.

Internally the patient got

℞ Sod. hyposulph. pulv., ʒ ij.
Misce fiat capsules xjj.
Sig. Give two a day.

Patient recovered completely; none of other dogs showed any symptoms, though all the time exposed. Hair was not destroyed. One of the members of the N. E. Kennel Club to whom I related the case informs me he has seen similar cases. It is so unusual I cite it here.

EXTRACTS FROM EXCHANGES.

FRENCH REVIEW.

TRIORCHIDY IN THE HORSE [*By M. Ferez*].—At the age of one year, this horse was castrated by the author, who resorted to the method by covered testicle. The horse did well and was sold several months after. During the following year the owner called on Mr. F. to obtain from him some information in relation to the horse and find out if he had been really altered. He had seen some symptoms which made him suspicious—neighing when mares passed by him and presenting in the inguinal region a swelling of peculiar aspect. Was it a champignon or a testicle? After waiting a few months longer, the animal becoming decidedly vicious, an operation was decided upon and from the right side another testicle was amputated also by covered operation. The testicle was as big as a fist, rounded in form and about as large in front as behind; the epididymis was very short and covered the gland only partly. Its internal appearance presented nothing particular nor different from that of any normal testicle.—(*Rec. de Med. Vet.*)

UTERINE GESTATION WITH RABID SYMPTOMS [*By M. Barzoff*].—A little bitch having bitten a child was brought to the author. She had always been very good natured, but that morning was very irritable and looked angry. She did not answer to a call and preferred lying down in dark places. She had a good appetite and was quite fat. She was placed under observation, but nothing developed. She was kept six days, carefully watched, and on the seventh was destroyed, the owner being unwilling to wait any longer. At the post-mortem a tumor as big as a large egg was found attached on the mesentery and surrounded by several envelopes. A longitudinal section made through it exposed a fœtus: the section passed precisely through the spine; the head and paws were well formed. It was a case of ultra-uterine gestation, in which the fœtus, arrived at its term of development, had given rise to the symp-

toms, which at first sight simulated so well those of rabies.—(*Rec. de Med. Vet.*)

A RARE CASE OF FECUNDITY IN A COW [*By M. Mossé*].—The subject of this unusual case is a Dutch cow, aged 14 years, excellent milker, which never had any trouble in her many deliveries. This time she has. After delivering a live calf and then a second one dead, she soon shows more laboring pains, and a third calf presents itself by the hind legs. The little fellow is easily brought out; he is dead, and the cow is much exhausted. But that was not all; she is again taken with pains; exploration is made, and a fourth calf is detected in the uterus. The cow is so weak, makes no efforts, and the calf has not yet passed the anterior straight of the pelvis. Four litres of coffee, with half a litre of rum, are given to her, and an injection of ergotine made subcutaneously back of the shoulder. In an hour the animal feels stronger, and one of the hocks of the calf has entered the pelvis. It is secured with rope, the other also, and the delivery completed quite easily. The envelopes were not expelled for a week and passed off in one mass. The living calf weighed 18 kilogs, the others about 20 a piece; altogether with the envelopes and all, some 90 kilogs.—(*Journ. de Med. Vet. and Zootech.*)

SEROTHERAPY OF ANASARCA [*By M. Botz.*].—A dappled grey gelding, five years old, convalescent from an attack of strangles, is six days after found suffering with anasarca, and presents the ordinary symptoms of the disease. Besides an internal treatment of sulphate of soda, nitrate of potassæ, acetate of ammonia, digitalis powder and naphthol, he received for several days in succession 40, 30, 20, 20 and 10 cubic centimeters of antistreptococcic serum, when he improves. Three days later he has a relapse, and with the same treatment receives again 30, 30, 20, 10, 10 cubic centimeters of serum. This means of treatment being exhausted its adminstration is stopped, and the next day the symptoms are such that the recovery of the animal seems very doubtful. A new supply of serum allows the administration again of 40, 30, 30, 20, 20, and 20 more centimeters, when serotherapy was stopped. Convalescence was long. Considering the peculiarities of the two relapses, and not desiring to explain them, the author says that he never had occasion to find fault with that treatment, providing the serum was employed at the outset of the disease and in massive doses.—(*Jour. de Zootechnie.*)

PERFORATION OF THE UTERUS IN A COW—RECOVERY.

[*By M. J. Biol.*].—This unusual case occurred twenty-five years ago, says the author. The cow had calved and had eversion of the uterus. She was tympanitic, lying in the costal position, threatened with asphyxia, when Mr. B. was called to see her. Her condition was as follows: "Costal decubitus; rumen enormously distended; extremities extended and now and then struggling; eyes staring and protruding; mouth widely open; breathing short, rapid, dyspnœic; almost pulseless; rectum prolapsed and cyanosed. Toward uterus, the uterine cornu anteriorly gravid and completely eversed, free from placenta, appears as a large membranous sac, very thin, purplish, flabby, soiled with blood and manure, and measuring, including the vagina (also prolapsed), about 30 centimeters in length. Increasing the severity of the situation, there was a big ball of rye straw, the size of the arm of a man, perforated through and through the uterus, some fifteen centimeters from the prolapsed vagina. This was the result of the manipulation used to pull the animal out of the barn." Perhaps it would be better to let the butcher finish her? However, trocar was thrust into the rumen and tympanitis subsided. At the same time, as it went on, the contractions of the uterus began to return, from the extremity of the horn toward its base, in its width as well as in its length. The tear seemed to reduce also—and after a short time, reduction was completed after thorough cleansing of the parts. The cow made a complete recovery.—(*Rec. de Med. Vet.*)

NEW MEANS TO DIAGNOSE TUBERCULOSIS.—Dr. Liort has used in human patients the following mixture in the diagnosis of tuberculosis: Chloride of sodium, 5 parts; sulphate of sodium, 10 parts; distilled water, 1000. Or, again: Chloride of sodium, 6 parts; sulphate of sodium, 10; magnesia, 2; distilled water, 1000. This serum is used like tuberculin. It gives in tuberculous patient a characteristic reaction nine hours after the injection. It is harmless in any case. These injections deserve a trial in veterinary practice, says the *Semaine Vétérinaire*, but it does not give the dose to inject.

INGUINAL FISTULA DUE TO ABSCESS OF THE RIGHT KIDNEY [*By MM. Butel and Bourges.*]—The horse was castrated in July. In November it had an abscess in the right groin and another the following February. When examined in the month of August of the same year it has a fistulous tract which allows the entrance of a probe up as far as the superior inguinal ring. There is no champignon, the scrotum is clear, the animal is not lame and his condition is good. Injections of cresyl

are prescribed with keeping the parts clean. Gradually the general condition changes; he loses flesh and strength. The animal is thrown, the tract of the fistula enlarged and the hand can be introduced into the inguinal canal, as far as the ring and into the abdomen, where a thick indurated cord is felt; it opens downwards into the fistula and from the inguinal ring runs upwards towards the right kidney. Ultimately the animal dies. At the post-mortem, between two and three litres of sero-bloody effusions are found in the abdomen; the peritoneum is inflamed and the right kidney, soft and fluctuating, forms a large round mass, which from its postero-superior face gives attachment to the indurated cord, mentioned above. This runs along the right of the vena cava, towards the superior inguinal ring, where it is adherent to the atrophied spermatic cord. The envelope of the kidney is thick, and its tissue degenerated; it forms a large abscess, multilocular, with brownish walls, partly putrified, containing more than two litres of pus. The right ureter is normal; the left kidney hypertrophied. The bladder contains a little normal urine; its walls are not altered.—(*Bullet. Soc. Cent.*)

BELGIAN REVIEW.

PROLAPSUS RECTI IN THE DOG—CONTENTION WITH PERITONEAL SUTURE (*By E. Lienaux*).—The recovery of prolapsus recti is often obtained with André's suture—in some cases amputation of the prolapsus is indicated; but whether because of great difficulties in reduction or of gangrenous condition of the intestines, there are cases where amputation is only applicable. In such instances the author recommends the reduction through the abdomen. To this effect this cavity is entered in the left flank, and by simple exploration of the finger the colon is readily discovered: a gentle pull from backwards forward brings the rectum back in its position. The operation is completed by fixing the colon to the flank by suture. In one large dog, which had a prolapsus (one month standing), which had been treated several times by the suture of André, the author resorted to his mode of treatment: general anæsthesia, antisepsy of the left flank, incision through the abdomen, reduction by pulling the colon from backwards forwards, and then application of "four silk stitches, half a centimeter apart, applied horizontally on a level with the superior extremity of the peritoneal incision, involving the serous and muscular coats

of the colon and the parietal peritoneum. Two other points were placed vertically which, closing the peritoneal wound, secured also the two muscular coats of the colon. The intestine is then sutured to the flank by a series of stitches arranged in T shape." Sutures were applied, iodoformed dressing applied, milk diet, etc. Cicatrization took place by first intention; there was no relapse, although it is more than three months since the animal was operated upon.—(*Annales de Belg.*)

HOT FUMIGATIONS—THEIR DANGER [*By Mr. Verlinde*].—Of all the common treatments recommended in diseases of the respiratory tract, the one which is most known is the administration of fumigations made with steam from hot water or mixtures made with it (bran, hay, oats, etc.). Every horse owner has recourse to it, and it is peculiar that taking in consideration the accidents that may result from its improper or careless application, there are not a greater number of them recorded either as burns of the mouth, tongue, or others more or less severe. The author relates one which by its severity deserves attention. It is that of a horse which, suffering with a slight cough, had his nose bag, containing flaxseed and bran boiled together, put on his head just as the mixture was taken off the fire. Of course, in a few instants the animal manifested his pains and it was with great difficulty that the bag was removed, not until after ten minutes of several attempts. Once free from the bag, the animal seemed relieved and it was hoped no bad results would occur. But soon the lips and nose began to swell, the head became enormous, the tongue swollen, hard, almost cylindrical, respiration dyspnœcal, and almost *entirely buccal.* The condition became more and more serious, the breathing exceedingly laborious, the animal very restless, large patches of the buccal epithelium sloughed out, there were violent spells of coughing, the pulse rose to 64, the temperature to 39.4 C; there were cutaneous sloughs, offensive odor from the mouth and nose. Tracheotomy had to be performed and the wound had a bad aspect. Feeding by mouth was impossible and rectal injections of milk were resorted to. Creolined washes, boric ointment, camphorated applications were used externally. After four or five days improvement began to set in—cicatrization of the mucous membrane and of the skin went on gradually. The wound of tracheotomy closed after some time, but it took more than a month to repair the mischief done by the application of the old-fashioned method of fumigation.—(*Annales de Belg.*)

SATURNISM IN HORSES [*By MM. Mosselman and Hebriant*].—Lead poisoning is comparatively rarely observed in horses. Some experiments of Hortwigt, Dominik, and Gerlach, show the great resisting power of solipeds to the toxic action of lead salts, and yet there are a few cases on record—such as those of Trousseau, Ramque, Stotz, Reiner, Meyer, and Schmidt—in which one of the principal symptoms has been the manifestation of laryngeal trouble, shown by a more or less marked roaring. The authors resume the investigations that they have made and the interesting conclusions they reached from cases observed on a farm situated some 600 metres from a lead factory. On that farm all the plants are poor, sickly, and covered with more or less dust; the dew is always dirty. In that exploitation three colts and two animals died; another which was taken sick was treated with iodide of potassium and improved. It was again taken ill and ultimately died. Two others died also. After post-mortem of these three subjects, chemical analysis revealed the presence of lead. The balance of the stock was submitted then to a treatment of iodide of potassium, and the roaring which had been a manifestation of the sick animals, was soon relieved and recovery complete in two months. Inquiries were made in relation to several cases of death which had occurred among the cows and the fowls of surrounding places, but no information could be obtained except that the grass that was given to them had been cut from the lands of the farm surrounding the lead factory. The food (hay and seeds), the earth of the place, were then analyzed, and from them also lead was extracted in quite large quantity. The conclusions drawn by the authors are very interesting: (1) The earth of places surrounding lead factories may contain a certain amount of lead and be the starting point of lead poisoning. (2) The vegetables growing on such land contain a certain quantity of lead and may be toxic, if not by assimilation of the lead in the plants, by the atmospheric dust, dew and earth deposited on them. From the observations collected the authors say: "If the dose of lead is sufficient, saturnism may occur and prove fatal rapidly. The toxic effects are principally marked on the pneumogastric through its inferior laryngeal branch, hence the roaring. Bovines and fowls must not be allowed pasturing or feeding on suspicious lands on account of their proximity to lead factory."—(*Annales de Belg.*)

VERMICULAR BRONCHO-PNEUMONIA AND TUBERCULOSIS [*By Prof. T. Henkrickx*].—Every practitioner knows how dif-

ficult the differential diagnosis is between tuberculosis and some diseases of the thoracic cavity, which are not microbian. The following case shows one more proof of it. A cow was brought to the author with the history that she was bought recently, was in good condition, had a calf, everything normal; was turned out for a while, when she was noticed to be ailing. Her condition grew worse and at last she was brought to him for advice. She was then in a cachetic condition, her whole organism is affected and presents indications that she is very ill, the trouble being located by most minute examination in the chest. The respiration is accelerated and painful, 45 to 55 per minute, it is abdominal and dyspnœcal. Aborted cough by spells, discharge from both nostrils without bacillus of Koch (by microscopic examination), dullness on the left side of the chest, back of the shoulder. The case is one of broncho-pneumonia of both sides, more marked on the left. Of what nature? Tuberculin test is applied with thermic reaction of 1.3° and increased respiration to 92. Diagnosis of tuberculosis is made. The cow dies a little later. At the post-mortem the lungs show alteration of broncho-pneumonia: interlobular emphysema, whitish muco-pus in the large bronchi, a certain number of strongyli in the middle size bronchi, etc. But no mark of tuberculosis in the lungs nor anywhere else. Although the reaction by tuberculin had been only 1.3°, the case was considered as one of tuberculosis by taking the cachectic condition of the animal. Having full faith in the value of tuberculin and the correctness of its declaration, the author continued his investigation on the cadaver, and found at last, a subglossal gland with a caseous centre, as big as a hazel nut, deeply situated in the intermaxillary space. When tuberculin has spoken and the lesion is not found, do not say that tuberculosis does not exist, but that you have not looked well for it.—(*Annales de Belg.*)

THE AUTOMOBILE IN PRIVATE USE.—In relation to the use of the automobile carriage in this city Mr. A. C. Bostwick, who some time ago bought a motor phæton, says: "My automobile cost me $2500 in the first place; then for a year I had to employ an engineer at $60 a month, with board and lodging; added to this I used up two batteries within the year at $400 each, not to speak of new tires and repairs." Eight hundred dollars for batteries! At $35 per month a horse could be kept for two years on that item alone.—*New York Herald.*

REVIEW OF BIOLOGY.

TUBERCULOSIS OF MAMMALIA AND TURKEYS [*By MM. Cadiot, Gibert and Royer*].—The experiments which have shown that gallinaceans take with difficulty tuberculosis of mammalia have already suggested therapeutic attempts. For some years the authors have made researches and have thought that the best results would be obtained in trying to increase the natural resisting power of some birds with repeated inoculations of human or canine tuberculous cultures, living or sterilized. Chickens giving not enough blood, they operated on turkeys. They experimented on forty birds. Several received between 10 and 12 virulent inoculations in veins or in the peritoneum. A certain number of them died; in most they found only hepatic cirrhosis; in three the liver and spleen contained numerous tuberculous granulations very rich in bacilli. It was already known that turkeys easily become tuberculous, but it was supposed that they were contaminated by other gallinaceans and especially chickens. The facts presented by the authors show that in some cases infection can be transmitted by mammalia. However, in turkeys as in chickens, inoculations have to be multiplied. By this means, instead of increasing the resisting power, it is reduced. However, the positive results are yet rare; to have tuberculosis developed regularly, injections of serum from mammalia must be made at the same time.—(*Soc. de Biology.*)

OXYGENATED WATER IN SURGERY [*By M. Lucas Championniere*].—After establishing that aseptic practice does not exist and has never existed for general surgery, and that no ordinary surgery is done without antiseptics, the author reviews comparatively sublimate and phenic acid. The first substance is without value when applied on a suppurating wound and especially when the suppuration assumes a certain character of malignity. Phenic acid, on the contrary, is better. Nevertheless, in concontrated solution it acts only slowly. Chloride of zinc is one of the rare substances which reduces suppuration. But its effects are irregular. For the author oxygenated water has a powerful antiseptic action on ferments; it possesses a special power of impregnation on the tissues, so to speak, penetrating them. Its application in surgery imposes itself. It may be used pure as delivered to the trade, containing 10 or 12 volumes of oxygen.—(*Acad. de Med.*)

SUPERRENAL CAPSULES DURING FŒTAL LIFE [*By MM. Langlois and Rehns*].—When the functions of these organs were entirely unknown, some observers, noticing their relative size in the fœtuses and new-borns, assigned to these organs a special part during the first periods of development. Recent researches have confirmed the experiments of Brown-Sequard and shown that they exercise an important part, essential even during life. However, there is reason to ask if the functions attributed to-day to those glands existed previous to birth. Indeed, it is known that some glands, like those annexed to the digestive canal, do not enter into function until after birth or at least have their own activity only from that moment. The authors could not, to solve the question, remove the superrenal capsules during intra-uterine life and observe the effects on the vitality of the fœtus; they had to be satisfied to determine if these fœtal organs contain the vaso-tonic principle so characteristic of the adult capsulæ. They experimented on fœtuses of guinea-pigs, rabbits, lambs, and finally on a few human fœtuses. But their researches were more specially made on lambs, which are easier to get in good condition. The experiments made with capsules of fœtuses of rabbits and guinea-pigs, having given identical results, the authors conclude that at the end of the first half of gestation (60 days for the fœtus of lambs, which is carried 140 days; 30 days for that of guinea-pigs, which carries 65 days) the superrenal capsules contain and therefore must pour in the blood the characteristic vaso-tonic substance.—(*Soc. of Biol.*)

THE SCOURGE OF TUBERCULOSIS.

MOVEMENT TOWARD EXTIRPATING THE DISEASE IN CATTLE GROWING—THE PUBLIC JUST AWAKENING TO THE GREAT DANGER INVOLVED—THE LAWS GOVERNING IT IN THE VARIOUS STATES OF THE UNION.

CHICAGO, ILL., June 18.—To ascertain in detail what steps have been taken in the United States toward extirpating tuberculosis in cattle—the medium, according to physicians, through which the malady is most readily invading the human race—the *Tribune* prints a report from nearly every state and territory in the union.

The most salient fact presented by the report is that the scourge is rife in many states because of a lack of stringent

sanitary laws. Ignorance of the danger is given as the explanation, and many of the states are waiting for an awakening of public interest like that which has arisen in Illinois.

Mississippi, Georgia and Montana expect to pass laws at their next legislatures aiming at exterminating tuberculous cattle. Governor Mount, in behalf of Indiana, promises to act as soon as another state takes the initiative. Some states have anti-tuberculosis laws which are ineffective because of inadequate appropriations. In Ohio, New York, Missouri and Washington, cattle are tested and condemned regardless of the wishes of the cattle owners. Massachusetts appropriated $75,000 this year for the extermination of tuberculous cattle. In that state the carcasses of condemned animals are buried. Pennsylvania appropriates $50,000 a year for the purposes, and that sum is considered insufficient. In Mississippi condemned cattle are shot and hauled to the woods.

Climatic conditions in some of the south and southwestern states are reported as being antipathetic to the prevalence of tuberculosis. The high altitude of Wyoming keeps cattle in that state free from the disease. In South Dakota, Oklahoma, New Mexico and Florida cattle are practically non-tuberculous.

Of the cities Buffalo has elaborated ordinances prohibiting the sale of milk from cows not known by test to be free from tuberculosis. The system employed there is much the same as has been suggested for use in Chicago.

TEXT OF THE QUESTIONS.

The exact questions asked by the *Tribune* and to which the reports from various states are in answer were as follows:

What steps, if any, has your state taken toward extermination of tuberculosis in cattle, and particularly in milch cows?

How does the law operate?

How much does the state appropriate for this purpose?

Have the live stock, health or other authorities power to test cattle with tuberculin without the consent of cattle owners?

Have any cities of the state taken municipal action to restrict the sale of milk not known to be free from tuberculosis?

If nothing has been done by the state or city government, to what extent has tuberculosis attacked cattle in the state?

No state reports the existence at any time of an epidemic of tuberculosis. The disease does not break out in epidemics, it is maintained by veterinarians; it is a slow constant scourge, and complete extermination is the only remedy.

Following are reports from the leading states:

SPRINGFIELD, ILL.—Secretary C. P. Johnson of the state board of live stock commissioners said of the work of the board in carrying on the war against tuberculosis:

"During the two and a half years prior to June 1 about 1200 cattle were tested and over 12 per cent. were found to be affected with tuberculosis and were destroyed.

"The last general assembly having made an appropriation of $5000 per annum for the purpose of making compensation to owners for tuberculous cattle destroyed, the board on June 1 commenced active operations and up to the first of last week had tested 358 cattle, of which number 108 reacted and were found to be tuberculous on post-mortem examination, a much larger percentage than had resulted from the tests made during the last two years and a half.

"The attorney general recently in an opinion held that under the law of this state our board has full power to make physical examination of any herd where the disease is reported to exist and on reasonable ground for believing that the disease exists in a herd to place the animals in quarantine and compel submission to the tuberculin test, and the board proposes to proceed on this line, as well as testing all herds on te application of the owners, so long as the funds provided by the legislature last. The tests will be made as nearly as possible in the order of the applications therefor, the board having now about 1000 cattle booked for the test. All animals of private individuals are appraised, and the owner of any animal destroyed receives 15, 25, 35, 50, or 75 per cent. of the valuation, according to the class that the animal falls in, which can be determined only by the extent to which the disease has developed, as disclosed by the post-mortem examination. The board will enforce rigidly the proclamation of the governor against the importation into this state of dairy and breeding cattle from other states that have not been officially tested with tuberculin."

ALBANY, N. Y.—The legislature of 1894 enacted a law empowering the state board of health to exterminate tuberculosis in cattle. Local boards of health supply the state board with information, and infected herds are isolated and killed by the state officers, the owners lodging their claims for reimbursement with the state comptroller. The law has worked satisfactorily, but on account of the small appropriations made by the legisla-

ture during the last few years little more than educational work can be carried on. The appropriations have not in any year exceeded $25,000 and have been as low as $10,000. The last legislature failed to make an appropriation. The tuberculosis committee of the state board of health has full authority under the law to test cattle with tuberculin if in its opinion the animals have tuberculosis. Many local boards of health require the owners of herds supplying milk to their municipalities to have clean bills of health for each animal. Interest in bovine tuberculosis has largely increased throughout this state during the last year.

BUFFALO, N. Y.—Health Commissioner Ernest Wende has succeeded by methods of his own in protecting Buffalo from the milk of tuberculosis cattle kept outside the corporation limits. In January, 1895, he framed a set of milk ordinances, which give him all the power he needs within the city. Every person who sells milk is required to post conspicuously a card showing by whom the milk is supplied. Thus a complete list of the farmers is obtained. All dairymen are then notified to have their herds examined by a trained veterinary surgeon and to file a certificate of the examiner in the office of the board of health. The herds of dairymen who do not comply with this request are marked "suspicious." When information is refused by any dairyman his product is held to be suspicious, and is interdicted at the city line. This scheme has worked to the commissioner's entire satisfaction.

BOSTON, MASS.—Massachusetts, through its state board of cattle commissioners, has battled earnestly against tuberculosis for several years. The board for the last four or five years has devoted its attention particularly to tuberculosis, with satisfactory results. Each city and town in the state appoints one or more inspectors to watch for infected cattle. The suspected cattle are isolated and tested by tuberculin. If the tuberculin reacts, the animal is killed and its carcass burned. The owners of condemned cattle are remunerated by a sum not exceeding $40 from the appropriation made by the legislature. All cattle which are brought into the state from other states are quarantined. In 1896, when the agitation regarding tuberculosis was at its height, the legislature appropriated $300,000. In that year the commissioners killed 5198 tuberculous cattle and paid the owners $173,206. In 1897, $250,000 was appropriated, 9991 cattled were tested, 5275 condemned and killed and $179,867 paid for them. In 1898 the legislature cut the ap-

propriation to $20,000. Five hundred and six cattle were killed at an expense of $13,732. This year $75,000 was appropriated, not a sufficient sum for extensive operations on the part of the board. Offenses against the statutes which prescribe the quality of milk are so severely punished that violations are comparatively rare.

HARRISBURG, PA.—Pennsylvania expends $60,000 a year for the extermination of cattle afflicted with tuberculosis. Test is made on cattle on application from the owners. Cattle killed are paid for at the rate of $25 for common cows and $50 for registered animals. Cattle found to be infected are killed at once. The state live stock sanitary board prepares tuberculin for the state's use, but it is furnished free to any cattle owner who wishes to test his herd. During 1898 the number of inspections made was 14,437, and among these 1348 were condemned. The cities have made inspections of milk in a perfunctory way, but little has been done to restrict the sale of milk not known to be pure. The pure food department caused many arrests of dairymen selling impure milk.

PHILADELPHIA, PA.—On October 16, 1894, the board of health of the city of Philadelphia adopted the following resolutions: "Resolved. That the chief inspector of milk keep a book in which shall be registered all herds of milk cows that supply the city of Philadelphia that have been certified as free from tuberculosis by the tuberculin test; also of such as have not been thus reliably certified and which are therefore 'suspicious,' which record shall be open to the inspection of the public; said records shall contain the names of the dealers supplied by such herds."

HARTFORD, CONN.—When any contagious disease exists among cattle in this state the commissioner may quarantine them and prohibit the sale of their products. Local authorities are required to report contagiously diseased cattle to the commissioner. For the year ending on September 30, 1898, the state paid $1060 for seventy-one cattle condemned and killed. The state does not appropriate a specific amount, but leaves it to the judgment of the commissioner. The tuberculin test has been wholly abandoned in Connecticut. Some of the cities required the physical examination of all cows whose milk is sold within their limits, and the legislature now has under consideration a general law on the subject. Commissioner Sprague says in his report that tuberculosis prevails, but not to an alarm-

ing extent, nor is it increasing among the 207,000 cattle in the state.

SACRAMENTO, CAL.—By the law passed last March supervisors in counties and the state dairy bureau are required on the report of the state veterinarian to proceed immediately to eradicate the disease. The governor will appoint the veterinarian shortly. Eight thousand dollars was appropriated. All the principal cities of the state by the appointment of milk inspectors have taken action to restrict the sale of milk not known to be free from tuberculosis. In several counties there are official veterinarians whose duty it is to exterminate diseased cattle. The official veterinarians and health officers have the power to test cattle with tuberculin without the consent of cattle owners.

ST. PAUL, MINN.—St. Paul, Minneapolis and other cities milk dealers must take out licenses, which are granted only where the cows are proved to be healthy. No specific appropriation is made by the legislature for the control of tuberculosis, the expense being borne partly by the cities and towns and part coming out of the general fund of the state board. This board, as well as local boards, has the right to test suspected cows whether the owners consent or not, and the state board can prohibit the sale of milk by any dealer who has diseased or suspected cattle. It has full power of quarantine.

INDIANAPOLIS, IND.—No step has been taken by the state of Indiana to exterminate tuberculosis in cattle. The state health board has arbitrarily adopted a set of rules for the care of dairies. Milk cannot be sold either in Indianapolis or Fort Wayne from dairies where the test is not made and in this way the tuberculin test is made possible. A bill introduced in the last legislature providing for the state inspection of dairies and for making the tuberculin test on all milk animals was not passed. Governor Mounts has not encouraged this move, preferring to wait for results from other states.

PROVIDENCE, R. I.—Rhode Island has taken active steps to exterminate tuberculosis in cattle, and is especially stringent in looking after milch cows so affected. The state board of agriculture has authority to appoint a commissioner for each county in the state, whose duty it is to visit and inquire into the condition of any domestic animals. The board is empowered to kill infected animals and dispose of the carcasses.

DES MOINES, IA.—Tuberculosis among cattle in this state

has been largely eradicated. All animals found to be affected are destroyed. Heavy penalties are attached for failure to carry out the provisions of the statute. Large numbers of dairy cattle have been condemned and destroyed under the law. Thus far the appropriations for this department have been limited to $5000, but there is every indication this amount will be increased at the coming session. A corps of assistants, including one veterinarian appointed by the governor in each congressional district, assist the state veterinarian. The dairymen are attempting to secure the passage of a law requiring all stockmen to give a certificate of tuberculin test with every animal sold.

JEFFERSON CITY, MO.—Missouri has no tuberculosis or other disease among cattle. Ten citizens can petition the county court for inspection by the veterinary surgeon of cattle believed to be diseased, and the surgeon, after inspection, can have cattle killed or quarantined without consent of the owner. The governor can quarantine against cattle coming into the state. For killing diseased cattle the state pays not to exceed $30 a head. Nearly all cities have ordinances for the inspection of milk and condition of dairies and the law is strictly enforced.

CONCORD, N. H.—The extermination of tuberculosis in cattle and the prevention of its importation from other states is in the hands of a board of cattle commissioners appointed by the governor and council. It is given absolute power to make tests with tuberculin. Cattle in which the tuberculin test shows the presence of tuberculosis are killed and their owners recompensed from the state treasury. No special appropriation is made for this purpose. The largest expense of the commission in any one year has been $16,000.

AUGUSTA, ME.—The Maine legislature in 1889 passed an act for the purpose of extirpating all infectious and contagious diseases among cattle. The three cattle commissioners are authorized to enter any premises where they have reason to believe tuberculosis exists. Any person who refuses the commissioners admission is punished by a fine of $100 or ninety days in jail, or both. The state appropriates $5000 annually. Veterinary surgeons have power to kill cattle affected with tuberculosis. In the majority of the cities a milk inspector is elected to see that no disease is present.

TRENTON, N. J.—New Jersey tuberculosis commission works in conjunction with the state board of health and the state

dairy commission. It has an annual appropriation of $5000. All cattle discovered with tuberculosis are killed, and the owners are paid three-quarters of the animals' value as determined by appraisers.

HELENA, MONT.—There is a general state live stock sanitary law relative to tuberculosis in cattle. There is a live stock indemnity fund of $10,000 to meet expenses connected with the extermination of all contagious and infectious animal diseases, State Veterinarian Knowles employs the tuberculin test with or without the consent of the cattle owner. The dairies have not been systematically examined.

COLUMBUS, O.—The live stock board has authority to test cattle without the consent of the owners, provided the stock is paid for by the state. The municipal authorities of Cincinnati, Cleveland, Springfield, Dayton, Columbus and other Ohio cities have taken action to restrict the sale of milk not known to be free from tuberculosis, and with the best results. Several years ago the disease was a menace to the cattle industry of Ohio, but under the bureau of animal industry it has been curbed, infected herds destroyed, and conditions generally improved.

MADISON, WIS.—The state board of health, state veterinarian and experimental station are co-operating in eradicating tuberculosis. The law requires that all animals found affected with tuberculosis shall be destroyed, compensation being paid for the same. Tests are made by the state veterinarian on request of local health officers, and in case animals react to tuberculin test their value is appraised and the state pays the owner two-thirds of this valuation. In some cities ordinances require all animals furnishing milk for human consnmption shall be tested with the tuberculin test before the milk can be used.

LINCOLN, NEB.—The live stock inspection laws of Nebraska are weak and practically non-operative, and such steps as have thus far been taken looking to the extermination of tuberculosis in milch cows have been at the instigation of the owners themselves. The live stock commission has no authority to test cattle without the owner's consent. Action has been taken at Omaha to prohibit the sale of milk not known to be free from tuberculosis. Similar action is contemplated at Lincoln.

SANTA FE, N. M.—New Mexico has a cattle sanitary board with full power to quarantine, inspect and slaughter cattle infected with tuberculosis. A tax is levied for expenses of the board, which can meet with the governor, auditor and treasurer, if epidemic prevails, and order special levy to be made for funds.

It has authority to stamp out any disease. Municipalities have taken no action. It is not believed the disease exists on the range in this altitude.

ATLANTA, GA.—There is no legislation bearing on tuberculous cattle. Commissioner of Agriculture Stevens says the disease is not as common here as it is in the middle western states, but it is present in sufficient frequency to warrant rigid and comprehensive legislation. It is his intention to ask the next general assembly to enact a general law covering all phases of the affair.

LANSING, MICH.—The Michigan commission promptly tests all cows suspected of being tuberculous, and all found infected are slaughtered. The owner is paid $1 for each head slaughtered. During the last two years about 1000 head of cattle, a large proportion of which were milch cows, have been tested for tuberculosis and the board concludes that less than two per cent. of the cattle of Michigan are affected.

OLYMPIA, WASH.—The general laws provide for the destruction of diseased cattle by the state veterinarian with or without the consent of the owners. The state dairy commissioner has the power to examine, test and seize any milk he may believe to be impure and prosecute for violation of the law. It is made a misdemeanor to sell or offer for sale impure milk. Tuberculosis is not prevalent.

CHARLESTON, W. VA.—The president of the state board of agriculture is empowered to order condemned, quarantined or killed any animal found afflicted with a contagious disease. This may be done without the consent of the owner, who is entitled, however, to be reimbursed out of a fund provided for this purpose. The cases of tuberculosis so far discovered have been in scattered herds.

AUSTIN, TEX.—Several years ago there was a prevalence of this disease among the cattle in the southern and western portions of the state. But by dint of hard work it was effectually stamped out and now it is not believed it exists anywhere in the state. The live stock sanitary commission has absolute power.

RALEIGH, N. C.—All milch cattle brought into North Carolina have to be accompanied by certificate of health. There is no power given by law for testing cattle for tuberculosis. There is little tuberculosis in cattle in North Carolnia, less than one-fourth of one per cent.

NASHVILLE, TENN. —The examination of herds of milch cows for tuberculosis is now going on in this state. The sanitary board has full power to test cattle. The counties in which animals are slaughtered have to pay for same at a valuation placed on them by two disinterested parties.

There are no special laws in Kentucky, Mississippi, Kansas, Oklahoma, Florida, Wyoming, Idaho, South Dakota, Arkansas, Nevada and Virginia.

CORRESPONDENCE.

SCHMIDT'S TREATMENT FOR PARTURIENT PARESIS.

MT. STERLING, ILL., May 29, 1899.

Editors American Veterinary Review:

GENTLEMEN:—I wish to report that I am using Dr. Schmidt's treatment for parturient paresis this year with the most satisfactory results. I have treated twelve cases up to this date with a loss of three. The disease is more prevalent this year than I ever saw before. I can account for it in this way: The grass is very rank and rich, and cattle are fatter than they are ordinarily. Later I expect to give a report in detail, as I have watched my cases closely.

Yours truly,

E. M. NIGHBERT.

MORE EXPERIENCE WITH THE IODIDE OF POTASSIUM TREATMENT FOR PARTURIENT PARESIS.

COLUMBIANA, OHIO, June 15, 1899.

Editors American Veterinary Review:

DEAR SIRS:—Have just finished with my seventh case of parturient paresis treated by the Schmidt method. The last three cases died, but in every instance I was called too late to be of any service, the weather, too, being very hot. No. 5 died in four hours. Both 5 and 6 were comatose with oral breathing when first seen by me. No. 5 had had a swollen udder for two or three days prior, and the owner had applied meat tryings all over the gland, and I noticed when I removed the fæces quite a quantity of clotted blood, a vermillion color. In reading up the subject in Zuill's translation of Friedberger and Fröhner's "Pathology and Therapeutics," Vol. I., I see that they make mention of the fact that in meat and fish-brine poisoning the blood is of a vermillion color. After death I examined the blood by cutting into the jugular vein, when I found it rather dark. This cow went down on the second day after calving.

No. 6 was an eight-year-old cow, which calved in the evening and was found down the next morning, remaining conscious until 1 P. M., at which time I was sent for, seven miles away, and when I arrived she was comatose and breathing through the mouth. I informed the owner that I was afraid it was too late. I, however, applied the potassium iodide treatment. The temperature rose from 96 degrees to 105 in five hours; respirations short. Some regurgitated food about the nostrils and some, I think, found its way into the trachea. She died the next day, without ever rallying, not being able to keep her on her sternum.

No. 7 was an eight-year-old, and had dropped her calf at noon on Friday, June 9, being unable to rise at 5 o'clock the next morning. The owner gave her a quart of tansy tea, and came to see me at 5.30 P. M. He said she was on her side at that time, but had been on her sternum all day. I arrived at the place at 6.30 P. M., and found her on her side, but not wholly insensible. I drew her urine, milked her out, and thoroughly washed and disinfected her udder. I then injected 150 grains of the potassium iodide solution into the four teats of the udder, propped her up on her sternum, and left at half-past eight. At 9 A. M. Monday I returned, and found that she had rested well all night, was still slightly comatose, and repeated the iodide solution, giving 120 grains this time. As the heart's action was rather weak, I gave hypodermically 1.10 grain of nitro glycerine and 1.8 grain of strychnine, which improved it very much. About noon I removed the calf, and she seemed to pay a little attention to it. Toward evening she raised her head and seemed a little groggy. During Monday night she bloated some, and the owner said that about 2 A. M. she became conscious, her bowels moved, and she drank some water. On Tuesday the owner came to see me and said she was still down and had not eaten anything and was breathing short. I went to see her at 2 P. M., and found that her bowels had ceased to act, and there was quite a discharge from the nostrils, mixed with grass and mucus. I informed the owner she had bronchial trouble and would die. There was no rise in temperature, it being the same as the day before (101) I could not convince the owner of the seat of the trouble; he wonld have it that the trouble was in the third stomach. I gave her some stimulants as she was trembling and striking or kicking at her abdomen. To satisfy him I gave her two grains of eserine and pilocarpine (Merck's preparations) hypodermically, and informed

him that she would not live through the night. She died in thirty minutes. I held a post-mortem and found the stomach and contents in good shape, which the owner admitted. In the small bronchial tubes there was quite an amount of ingested food, some pieces half an inch long. The small intestines for about thirty feet, 6 or 8 feet anterior to the rectum, were filled with bloody water. The owner was a very poor nurse.

Schmidt's treatment is all right if applied early enough, but when foreign substances are allowed to fall into the trachea nothing will save them. The first four cases I treated, and which I reported through the REVIEW some time since, were all treated early in the attack.

J. B. CAUGHEY.

EVIDENCE FROM AN INTELLIGENT LAYMAN.

To the Editor of the Breeder's Gazette:

One day last week I found a cow lying outstretched in the pasture unable to rise and almost unable to hold up her head. Her calf was three days old. In the morning she had seemed all right, although it was noted that she gave less milk than she ought. It was a plain case of milk fever, parturient paresis, so much dreaded by all dairymen. This cow was a Holstein-Friesian, a notably good milker, in pretty good condition. When I saw her at noon I pronounced her dead, or as good as dead, but I sent for a veterinarian anyway and putting her on a sled drew her to the shade of a tree. When the doctor arrived and looked at her he pronounced her pretty bad and fast sinking. Then he asked me if I knew of the new treatment for this disease. I expressed my ignorance and he told me of Dr. Schmidt's experiments in Denmark. He wished to try the treatment on this cow. Having no faith in any other treatment, I told him to go ahead.

First he gave her a draught of aloes, I believe, then carefully milked her, drawing out every bit of the milk. He washed her udder carefully with an antiseptic, and with some sterilized water in which he dissolved potassium iodide he injected into her udder about three pints. He used a fountain syringe for this. After this he gave her a copious injection of warm water and left her. That was about 3 o'clock. She could barely hold up her head. At 6 she was very much brighter and drank water. At 7 she drank more water and seemed almost ready to get up. After dark she got up unaided and has been all right since, although giving only enough milk yet for her calf.

The Schmidt theory is that there is some morbid action of the milk cells and in some way a poisonous substance is produced there that causes the paralysis that we call milk-fever. It is really a poisoning of the system. I do not sse that the treatment can be readily applied by the unskilled or by ordinary "doctors," but in the hands of good veterinarians it seems to me it promises to be a great and valuable discovery.

Champaign Co., O. JOSEPH E. WING.

VETERINARY LEGISLATION AT THE GOLDEN GATE.

OAKLAND, CAL., May 15th, 1899.

Editors American Veterinary Review:

DEAR SIRS:—After having read the correspondence which appeared in your May issue over the signature of Dr. A. T. Peters, I am tempted to relate our experience in legislative matters in as concise a manner as possible.

For the past ten or eleven years a few veterinarians in California have been struggling for the enactment of laws that would control the ravages of contagious and infectious diseases peculiar to our domesticated animals, and up to about six or seven months ago no apparent result was made manifest. During the past three or four years we have been endeavoring to prevail upon the State Board of Health to take an active interest in these matters with a view of obtaining later on representation on said Board. We heartily agree with Dr. Peters, that the proper way to handle these matters is through a State Board of Health composed of physicians and veterinarians. We did not hope or dream of accomplishing this at once, but thought it likely that after the State Board of Health, as it is now constituted, had a little more experience in handling diseases of animals they would realize the necessity of having veterinarians with them on the Board. Following out this idea last year we prevailed upon the State Board of Health to take some action in the premises, which they did by appointing a veterinarian to make an investigation of the condition of live-stock in the State with regard to the prevalence of contagious and infectious diseases, with a view of using the data and statistics obtained through an investigation to procure suitable legislation at the hands of our law-makers, as nothing could be accomplished under the laws existing at that time. Unfortunately for the movement, political complications had closed our State printing establishment, so little could be done towards educating our legislators on the needs of the State in this par-

ticular direction. A bill was framed, however, and introduced, giving the State Board of Health jurisdiction over all matters pertaining to veterinary sanitary science and police and empowering them to employ experts as they deemed necessary. Everything went along smoothly until all our plans were upset by the energy of one J. C. Blemer, who was and is in the employ of the Bureau of Animal Industry, employed on the Federal quarantine service. This person was and is considered by some to be, on account of his connection with the Bureau of Animal Industry, the greatest expert on matters pertaining to diseases of live-stock west of Chicago, and as a consequence had great influence with a certain class of politicians. Through his efforts a bill providing for a live-stock sanitary commission, composed of laymen who were to be empowered to appoint a State veterinarian, was introduced. This bill was dropped later on when it was learned that the Governor had stated that he would oppose any legislation providing for the appointment of a commission of any nature. Blemer and his friends then framed and had introduced a bill similar to the above with the exception that it provided for the appointment of a State veterinarian by the Governor instead of by a commission. This bill at the time of its introduction was approved by a number of stockmen who met for that purpose, notwithstanding the fact that it was the crudest affair it has ever been my lot to read. We then saw that there was practically no chance of the State Board of Health bill passing, and, deeming half a loaf better than no bread, we directed our efforts to perfecting the bill providing for the appointment of a State veterinarian by the Governor, which after a hard struggle and much lobbying we managed to substitute the most salient features of the former for the objectionable features of the latter. In fact made a pretty good bill out of it, in which shape it became a law.

We were at a loss to know the reasons which caused this man Blemer to display so much energy to obtain unscientific legislation, and wondered whether or not his superior officers in Washington approved of his actions. Later on, however, he announced himself as a candidate for the position of State veterinarian, and openly boasted that he had recommendations and endorsements for the position from Washington, and that he was going to obtain leave of absence from the B. of A. I. for a couple of years in order that he might accept the appointment of State veterinarian and start the work in this State in a proper manner. He well knew that should the State Board of Health or

any other scientific body gain control of these matters, he could not hope or dream to obtain an appointment at their hands. Hence his idea to clothe a stock commission or some other political body with the power of making the appointment.

At the present writing his chances are good to obtain his ends, notwithstanding the fact that there are a number of veterinary practitioners who have been residents of the State for many years, and who have been identified with the progress of the veterinary profession in the State, whose ability, integrity and moral character have never been questioned. These men, apparently, are entitled to less consideration than a man who is a stranger to the State, and whose ability, integrity and moral character are unknown. In fact, it looks as though this State was going to follow the precedent established by the State of Illinois in the appointment of a State veterinarian.

However, should this man secure this appointment, we shall solicit the privilege of addressing you further upon this subject matter, but until it is settled there are some things that had better be left unsaid.

I enclose a copy of the law, which is a good one except for the manner in which the executive officer is to be appointed. We should much prefer that its enforcement should be in the hands of the State Board of Health, and not in the hands of one individual, who will have full control over all matters pertaining to veterinary sanitary science and police in the State, said individual to be appointed by the Governor. We believe there are a number of practitioners in the State who are eminently fitted to handle this proposition just as well as the State Board of Health, but there is always the danger of politics controlling the position and ensuring the appointment of a man whose only qualifications are that he is a good fellow and a political manipulator, or controlled by such. Respectfully,

R. ALEXANDER ARCHIBALD.

THE ACTION OF COCAINE.

MANCHESTER, N. H., May 19, 1897.

Editors American Veterinary Review:

DEAR SIRS:—I have found several horses, among them being a bay gelding pacer, and not of a nervous temperament, on whom the anæsthetic effect of cocaine could not be produced, although the physiological effect was well marked. This particular horse was lame in the off foreleg and 25 drops of a 15 per cent. solution was injected in each side of the leg in the

usual place over the plantar nerves. Could it be possible for the nerve to be affected and still have *no* anæsthetic action whatever in the skin at any point on the leg? Is it a recognized fact that some horses are not susceptible to the action of cocaine in solution of any strength? Very truly yours,

A. F. ABBOTT.

NOTE.—Replying to our correspondent from personal experience only, we have observed the same imperfect action of cocaine of which he writes. Recently we injected a similar strength solution at the identical points he describes, and failed to induce anæsthesia of the skin, repeated prickings below the points of injection being followed by energetic manifestations of pain. In that case we concluded that if the skin could not be brought under its influence, the function of the large nerves over whose seat the injections were made, could not be materially altered. In this case, at least, we deemed the drug of no service as a diagnostic of the location of lameness. The experience of other practitioners would help to establish the true value of cocaine for such purposes, and answer the question promulgated by our correspondent as to whether certain individuals are insusceptible to its anæsthetic action.—R. R. B.

THE SCHOLARSHIPS AT THE STATE VETERINARY COLLEGE.

NEW YORK STATE VETERINARY COLLEGE,
ITHACA, N. Y., June 12, 1899.

Editors American Veterinary Review:

DEAR SIRS:—Allow me to amend your item on page 239, June issue, stating that in this college "A Scholarship in *Veterinary Science* will be open to freshmen in competitive examination." There is no special "scholarship in Veterinary Science," but 18 scholarships of an annual value of $200 each are open to competition by all members of the freshman class in the entire University. The veterinary freshmen stand on exactly the same level in their claim upon these as do the freshmen of all other departments in the University. If they could show themselves to be the best men they might capture the whole 18. On the other hand, they might fail to secure even one. Very truly yours,

JAMES LAW.

OUR FRIEND, Dr. W. Horace Hoskins, seems to have discovered the secret of perpetual motion in the new power, compressed air, he being president of a company for its manufacture.

SOCIETY MEETINGS.

AMERICAN VETERINARY MEDICAL ASSOCIATION.

Place and Date of Next Meeting: New York City, September 5, 6, and 7, 1899.

Convention Hall: Large Assembly Room of the Academy of Medicine, 17 West Forty-third Street, near Fifth Avenue.

Headquarters: Hotel Manhattan, corner Forty-second Street and Madison Avenue.

Local Committee of Arrangements: Drs. H. D. Gill (chairman), Roscoe R. Bell, George H. Berns, E. B. Ackerman, and W. H. Pendry.

Location of Surgical Clinic: American Horse Exchange, Fiftieth Street and Broadway.

Pathological Exhibit: The exhibit for this year has been abandoned, as sufficient material could not be obtained to make a creditable display.

LITERARY PROGRAMME.

Sanitary Subjects.—Secretary Stewart writes under date of June 21: "The sanitary papers to be considered at this meeting should induce every board of health in this country to send its veterinarian as a delegate to take part in the discussions, and if the matter was brought to the attention of these boards by veterinarians it is probable that many would be delegated. The following subjects will be presented: 'Municipal Meat Inspection,' 'Dairy Inspection,' 'Disinfection (person and premises),' 'Suppression of Tuberculosis.' They are all live and important problems for boards of health and live-stock sanitary commissions. The discussion on 'Municipal Meat Inspection' will be opened by Dr. E. B. Ackerman, veterinarian to the Brooklyn Board of Health. The Doctor has had several years of practical experience. Dr. John W. Adams, of the Philadelphia Board of Health, will also take part in the discussion."

Most of the subjects and essayists have already been announced in the various issues of the REVIEW, but that the extent and scope may be fully realized we recapitulate them here, with the additions furnished by the Secretary:

Dr. W. H. Dalrymple, of Louisiana, "Dietetics."

Dr. Roscoe R. Bell, of New York, "Acetanilid as an Antipyretic for the Horse."

Dr. C. C. McLean, of Pennsylvania, "Dairying from a Pure Milk Standpoint."

Dr. Wm. Herbert Lowe, of New Jersey, "Routine Manipulations and Operations."

Dr. Benjamin McInnes, of South Carolina, "Notes on Filaria Immitis."

Dr. Cooper Curtice, of North Carolina, "The Tick in North Carolina."

Dr. Richard P. Lyman, of Connecticut, "The Pathology and Treatment of Azoturia."

Dr. L. A. Merillat, of Illinois, "Arytenoideraphy a Practical Operation."

Dr. Charles E. Clayton, of New York, "Median Neurectomy."

Dr. S. J. J. Harger, of Pennsylvania, "Surgical Interference for the Cure of the Cribbing Habit."

Dr. Leonard Pearson, of Pennsylvania, "The Suppression of Tuberculosis in Pennsylvania."

Dr. M. H. Reynolds, of Minnesota, "Notes on the Healing Process in Ovariotomy."

Dr. E. A. A. Grange, of Michigan, "Disinfection."

Dr. Olof Schwarzkopf, of New York, "Schmidt's Treatment for Parturient Paresis."

Dr. W. Horace Hoskins, of Pennsylvania (a practical subject).

Dr. Charles Gresswell, of Colorado, "The Veterinarian in Official Life."

Dr. M. E. Knowles, of Montana, "Diseases Peculiar to the Rocky Mountain Region."

Dr. J. P. Turner, of Washington, D. C., "A Plea for a More General Use of Anæsthesia in Veterinary Surgery."

Dr. Chas. H. Higgins, of Montreal, "Chicken Cholera."

Dr. Maurice O'Connoll, of Massachusetts, "Glanders in Massachusetts."

Dr. W. L. Williams, of New York (subject to be announced).

Dr. H. D. Gill, of New York (subject to be announced).

Dr. A. T. Peters, of Nebraska (subject to be announced).

Dr. J. J. Repp, of Iowa (subject to be announced.)

Even with this long list of twenty-four announced essayists, Secretary Stewart writes: "Papers have been promised conditionally by several members, which may be positively announced in your next number."

THE SURGICAL CLINICS.

It has been decided by the Committee of Arrangements that clinics will be held each morning from 8 to 10, and, as already

stated, the place for holding them will be the sales ring of the American Horse Exchange, Fiftieth Street and Broadway—but a short distance from the Hotel Manhattan and the Academy of Medicine. Operating tables and all other appliances will be at the disposal of the operators, and subjects will be provided by the committee. The committee have received assurances from the following operators that they will be on hand to demonstrate certain surgical procedures: Drs. W. L. Williams, C. E. Clayton, H. D. Gill, William Sheppard, J. E. Ryder, George H. Berns, and Wilfred Lellman, of New York; S. J. J. Harger and John W. Adams, of Pennsylvania; L. A. Merillat, of Illinois; W. Herbert Lowe, of New Jersey; and possibly Tait Butler, of Mississippi.

THE PROGRAMME OF ENTERTAINMENT.

The association will be welcomed to Gotham at the Academy of Medicine by President James L. Robertson, of the County Association.

The banquet will take place on Wednesday evening, Sept. 6, at the Hotel Manhattan.

On the afternoon of Thursday, soon after adjournment, the guests will embark upon a steamer which has already been chartered, and indulge in one of the most delightful sails which is afforded by this section, passing down through New York Harbor, amidst the beautiful scenery contributed by the banks of Long Island, Staten Island and the Jersey coast, within full view of the Brooklyn Bridge, the Statue of Liberty, Governor's Island, and past the naval fortifications at Forts Hamilton, Wadsworth, and Lafayette; past famous Coney Island, and then out to sea, arriving in due season at Rockaway Beach, where one of the far-famed Wainwright Rhode Island clam-bakes will be served, and to those who have never indulged in that luxury a revelation awaits them. Of all the local seaside resorts for which New York is noted none is better adapted for innocent enjoyment than Rockaway, and the guests will remain there a sufficient time to partake of its pleasantries. The ladies will be an added attraction upon this outing, and it is hoped that a larger number will be present than ever before. The steamer will reach New York in ample time for night trains to be taken by those who may wish to leave for home on that evening.

PROGRAMME FOR ENTERTAINMENT OF THE LADIES.

While this has not been definitely decided upon, the following programme will probably be carried out:

Tuesday—Morning: Visit to the Academy of Medicine to witness the opening exercises of the convention. Afternoon: Carriage ride through Central Park and the Riverside Drive to Grant's Tomb. Evening: Resting at the hotel.

Wednesday—Morning: Visiting the large shopping districts under escort of the local committee of ladies. Afternoon: Resting. Evening: Theatre party.

Thursday—Morning: Resting. Afternoon: Excursion and clam-bake at Rockaway Beach.

RAILROAD RATES.

The railroads have granted the usual concessions of one and one-third fare for the round trip, on the certificate plan, and a time limit of twelve days, commencing Sept. 1st, and continuing to and including Sept. 12th. This arrangement will give opportunity to make short side trips in and about the great metropolis, a privilege which will be appreciated by those who rarely visit New York.

Secretary Stewart has issued a very comprehensive circular letter which has been sent to all veterinary graduates (not members) in North America and Canada. After giving a synopsis of the programme, the circular says:

The association heartily welcomes the interest and co-operation of veterinarians in all America. This includes you and you are cordially invited to attend the coming meeting.

Your attention is invited to the following reasons why veterinarians should become members of the American Veterinary Medical Association:

1st. It is an honor to belong to the highest Veterinary Medical Association in this country, and all veterinarians should have a desire to add their names to its roll; it gives them a standing that justly belongs to every good veterinarian.

2d. It is a source of education that cannot be received by any other method. We get the culture of many minds concentrated and meted out to us in a manner most helpful and which would not reach us through other channels.

3d. We should understand what will do the most good to the greatest number in our profession; by uniting we can do this; by individual action we cannot. To quote Professor Hamilton, in speaking of the Farmers' Institute, he says: "The great weakness of our country people lies in their lack of consolidation of thought upon a given question."

"When all of the country people agree upon any given subject, their desires will be gratified. Their failure lies in the lack of agreement, and the lack of agreement is usually due to a lack of accurate knowledge of the subject and its true bearing upon their industry."

This, we think, is applicable to us as a profession. While local associations are good educators, the meeting of the whole body of veterinarians can consolidate thought upon questions that are of vital

importance to us as American veterinarians, that cannot be done by local or other associations.

4th. The mercenary view—take it in a business light; will it pay? Yes, it will pay, even if you never attend any meetings. You will receive the printed proceedings of the association, and in numerous other ways receive more than your money's worth.

MISSOURI VALLEY VETERINARY MEDICAL ASSOCIATION.

(*Continued from page 230.*)

Dr. B. F. Kaupp, being called upon, presented the following paper on

LEUCÆMIA.

Leucocythæmia, or sometimes called leucæmia. is a disease which affects horses, cattle, hogs, and other animals, including man. Zuill says it has never been reported in a sheep or goat.

The disease is characterized by a great and permanent increase in the number of white blood corpuscles, by a diminution in the number of red blood corpuscles and by an enlargement of the lymphatic glands. The spleen is one of the organs most frequently affected. In the normal state there is found one white blood corpuscle to 350 red in nearly all warm-blooded animals. According to Zuill, in the horse and dog there is one white blood corpuscle to about 800 red. In leucocythæmia there may be one white corpuscle to 50, 25 or even 2 red. Leucæmia appears to be more common in cattle than in other animals in this section of the country.

The direct cause of this disease seems to be unknown. The primary lesions involves one of the blood-making organs, the spleen, lymphatic ganglions or red marrow of the bones. The lymphatic glands most often affected are the ganglions of the head, neck, and shoulders, of the extremities, and of the abdominal and pectoral cavities. These glands become tumefied and hypertrophied. The disease may also involve the spleen, liver, kidneys, uterus, bladder, lungs, subcutaneous connective tissue, the serous membranes, mucous membranes, etc. Leucæmia infarcts consist of a diffused infiltration of the tissue by white corpuscles, an infiltration which surrounds the blood vessels with a kind of whitish gray membrane. The new lymph-like tissues are circumscribed tumors, the histological structure somewhat resembling that of lymphatic ganglion. The spleen becomes enlarged, sometimes to enormous dimensions. The enlargement is uniform, so that the organ has practically the

normal shape. The capsule often becomes thickened. The cut surface is smooth and of grayish or brownish red color. The malpighian corpuscles are usually enlarged and prominent. The trabecular tissue of the spleen is often thickened and can be seen marking it as whitish lines. The enlargement of the spleen is mainly due to the increase of the splenic pulp. The enlarged lymphatic glands are grayish or reddish in color and sometimes mottled in appearance on the cut surface. Microscopically the enlarged glands show increase of the pulp and blocking of the lymph paths. Steel speaks of this disease occurring most often in female animals. The three cases I have had occasion to examine have occurred in cows as follows:

Case 1. August 1, 1896. Subject, an aged cow, weighing if in good condition probably 1000 pounds. The animal had an unthrifty appearance. The whole carcass when dressed presented somewhat of a jaundice condition. The liver had a light brown color and was considerably enlarged. Spleen was about five times its normal size, and when cut through the cut surface presented a brownish appearance. Malpighian corpuscles were enlarged and plainly visible; they were about the size of millet seeds and were lighter in color than the splenic pulp. Some of the lymphatic glands were enlarged and when cut through presented apparently normal gland tissue.

Case 2. Jan. 10, 1898. Subject, a seven-year-old native cow, weighing 900 pounds; color, red with white spots and in poor condition, with staring coat and unthrifty appearance. Upon post-mortem the spleen was found to be enormously enlarged, three feet long, twelve inches wide and four inches thick in the thickest portion. The malpighian corpuscles were greatly enlarged and of whitish appearance. Lymphatic glands all over the body were greatly enlarged. The bronchial lymphatic glands varied in size from a hen egg to a goose egg. Some of the glands in the pelvic region as well as the lumbar lymphatic glands and others were the size of a hen egg and larger.

Dr. S. Stewart reports a case of leucocythæmia in a cow in the January number of the AMERICAN VETERINARY REVIEW, in 1897, which case it was also my good fortune to examine. "The post-mortem examination revealed general emaciation with all of the structures and viscera presenting the usual appearance of emaciated animals, with the exception of the lymphatic glands and the spleen. The lymphatic glands in all parts of the body were greatly enlarged, varying in size from a

walnut to a goose egg and larger, and seemed upon section to consist of hypertrophied glandular tissue. The spleen which ordinarily would have weighed one and one-half pounds, weighed nineteen and one-half pounds, and measured thirty-two inches in length, nine inches in breadth, and three inches in the thickest portion. Upon section the malphigian corpuscles presented themselves as nearly whitish bodies, many of them one-third to one-half inch in diameter. The remainder of the splenic pulp was normal in color and consistence. The result of a microscopic examination of the blood showed one white blood corpuscle to twenty red." The prescapular lymphatic glands weighed three pounds apiece, the bronchial glands one and one-half pounds, and the deep iliac two pounds. Some of the superfacial lymphatic glands were sufficiently enlarged to be located upon ante-mortem examination. Dr. Stewart also reports a case of leucocythæmia in a St. Bernard dog.

Dr. T. W. Carnachan, of this city, reports an interesting case in a steer as follows: "The subject of this case was a western steer, about three years of age. Nothing unusual was presented by the animal before death, but on post-mortem examination the following well-defined lesions were presented to view. The spleen was very much enlarged in all its dimensions. The length was such as to cause it to cross the abdominal cavity and then curl up, turn over past the centre of the diaphragm. It weighed almost 100 pounds. The liver was enlarged and of a very pale color, the same condition applying to the heart. All the abdominal and thoracic lymphatic glands were very much enlarged and of the same color as the heart and liver. The flesh of the carcass was of a pale hue and very flabby in consistency. The animal was much thinner in flesh than the balance of same bunch."

Dr. Carnachan also reports a case in a hog as follows: "The following case was killed in February, 1899. Not seeing the animal before death can give no ante-mortem report, but on post-mortem I noticed it being much thinner than the rest of the bunch, but not enough to pronounce it emaciated. The skin was rough over the greater part of the body, which when handled was found to be a mass of small nodular enlargements which contained pus. The skin was of a yellowish hue. The bladder was unusually large for such a small animal. The liver enlarged and of a very pale color. The spleen was much enlarged, also the abdominal and thoracic lymphatic glands, especially those of the pelvic and sublumbar regions. These

glands were as large as an egg and pale in color. The adipose tissue was thin and watery in consistency. The animal was small and not many months old."

DISCUSSION ON DR. KAUPP'S PAPER.

Dr. Sihler: I have seen quite a number of cases of leucæmia and was fortunate enough to treat a case in a dog. I want to state that I was not certain what the malady was when I was treating the case. The symptoms manifested were languor, loss of appetite, constipation and an irregular pulse. On examination I found what I thought was a tumor in the abdominal cavity. I gave a laxative, then a second dose. The next day the dog died. Upon post-mortem I found the spleen was two feet long, six inches wide and two inches thick and then I did not know exactly what I had until I began to look the matter up. It was the first case of leucæmia I had ever seen. I have seen two or three cases in calves. In several cases that I have had the opportunity of seeing, the lymphatic glands were of a dark color and varied in size from a hen's egg to a goose egg. I have seen several cases in hogs and one or two cases where the lymphatics were dark in color and the spleen very much enlarged.

Dr. Moore: Did you find any symptoms of anæmia in the dog?

Dr. Sihler: The attack seemed to come on very suddenly. Was only sick a day or two before I was called. The dog was in good flesh.

Dr. McCurdy: I saw a case in a steer that was in very good condition where this disease was diagnosed. All the lymphatics were very much enlarged, very nearly all the same size, about as large as a man's fist, and the lesions were diagnosed as those of leucæmia. This case was diagnosed as such by Dr. Adair, who has had a great deal of experience among cattle, and was confirmed by Dr. Bennett. The spleen was enlarged to about three times its usual size.

Dr. Sihler: I remember a case in a cow diagnosed ante-mortem as actinomycosis but post-mortem proved it to be leucæmia.

Dr. Heck: I have been very much interested in this paper. Before coming to the meeting I made it a point to look up the literature on this subject, but found very little in our veterinary works, more perhaps in Zuill's translation than in any other book. I had recourse to some works on human medicine, and

I was particularly struck with the classification of blood diseases in one particular work,* and thought it was worth presenting to the association. The essayist has laid no particular stress on the fact of leucæmia being a blood disease, nor has he made any classification of varieties of this disease. The human practitioner makes a distinction of several conditions, which we group together with leucæmia; therefore I note the following classification, which I think is a most excellent one:

1. Anæmia { (*a*) Primary anæmia { 1. Chlorosis. 2. Pernicious anæmia. (*b*) Secondary anæmia.
2. Leucæmia { Splenic-myelogenous. Lymphatic.
3. Leucocytosis.
4. Hodgkin's disease.

This classification is based purely on the condition of the blood, and is made possible only by a system of staining (Ehrlich triple stain), when an altered or diseased condition of the white and red blood cells, particularly the former, is observed. We find a peculiar blood phenomena existing in each of the outlined conditions; for instance, in pernicious anæmia we find a certain overgrown or enlarged red nucleated cell (megaloblast) which is characteristic of the trouble, while all the red cells are often enlarged.

In normal blood we find several varieties of white cells, the principal ones called polymorphonuclear neutrophiles, 60 to 70 per cent., and lymphocytes, 20 to 30 per cent. In leucæmia, we have two classes of the disease, one, the splenic, the other, the lymphatic variety. The splenic is called splenic-myelogenous, owing to a very much enlarged white cell, which Prof. Ehrlich calls a myelocyte, and it seems to be the predominating cell. The blood in the lymphatic form is filled with small lymphocytes, about the size of red cells. Leucocytosis is simply an increase in the normal white cells, and may be either physiological or pathological. Hodgkin's disease is known as pseudo-leucæmia, splenic anæmia, lymphoma, etc. We known it by the term lymphoma, and it is characterized by a general enlargement of all the lymphatic glands and sometimes the spleen. There is no perceptible increase in white cells, and it is only distinguished from leucæmia by a blood examination. Of course, the etiology of these diseases is unknown, and with your permission, I will read a short extract from the author commenting on this

* "American System of Practical Medicine," p. 633-702.

classification: "All our knowledge of the so-called blood diseases is of the most fragmentary and unsatisfactory nature, and all our statements concerning them must therefore be considered as in the highest degree provisional and open to revision as soon as new light appears. The origin of the blood and the method of its reproduction and renewal are matters worthy of speculation. We are ignorant of whether there are any diseases of the blood itself except the parasitic diseases like malaria, and whether morbid blood changes are causes or results of other organic lesions; we may doubt whether the changes both in the blood and in the (supposed) blood-making organs are not both of them due to some third factor, itself unknown. Finally the identity and iudividuality of the several "blood diseases" are open to considerable doubt. In a few years we may have "changed all that." Pernicious anæmia and leucæmia may be found to be only different types of a single disease. Chlorosis may be classed with the other secondary anæmias, and Hodgkin's disease may be grouped with the malignant tumors or infectious diseases. Still, we must keep to some nomenclature while a better is being evolved, and the foregoing division of morbid phenomena must serve us for the present.

Dr. Stewart: This classification is quite an interesting addition to the discussion. I noted the essayist did not enter into the blood phase of the disease or into its etiology, but only took up the gross pathological lesions as he found them. The several diseases as mentioned in this classification just quoted is likely to come to the attention of the examiner of animals. Very few veterinarians stop to make any distinction as to the form of anæmia. I could readily see how one who did not make any study of the blood phase could mistake Hodgkin's disease for leucæmia. The last speaker raised the question of the essayist not making any examination of the blood to make sure the cases were leucæmia. I wished to say that in the case the essayist cited as reported by myself an examination of the blood was made and it was found there was one white cell to 20 red ones.

Dr. Heck: I wish to beg the gentleman's pardon, if I misunderstood him, and I assure him nothing has been said to cast any reflection on his paper. He has dealt with the clinical aspect of the disease almost entirely, and I congratulate him on having seen so many cases. I simply mentioned this classification to show how much more thoroughly the subject has been gone into by human practitioners, and how far behind we seem to be. I am not sure that we find analogous conditions in our

practice, but I should be very glad if our members would make some blood counts of properly stained specimens. No one has mentioned the length of time these patients live. I will say in human subjects they seldom live longer than three or four years, the splenic-myelogenous form being much more chronic than the lymphatic variety. Persons suffering from Hodgkin's disease may live an indefinite period.

Dr. Stewart: By provision of the By-Laws the next meeting should be held in this city, but in compliment to our friends from St. Joseph, who have so generously turned out to attend this meeting, I move that when we adjourn that the By-Laws be suspended and we adjourn to meet in St. Joseph.

The motion was duly seconded and carried.

Dr. Heck spoke in regard to subscription to the various veterinary journals. He stated that all the veterinarians in St. Joseph, except two, are subscribers to these journals, a claim which cannot be made by any other city.

On motion by Dr. Forbes a vote of thanks was extended to the essayists of the evening.

It was moved and carried that a vote of thanks be extended to the Kansas City Veterinary College for the use of its rooms for this meeting.

On motion the association adjourned.

A clinic, as a new departure, was arranged for this meeting with a view to attracting more busy practitioners, and those who witnessed it pronounced it a success, and we are encouraged to continue them as a part of our programme. It does not matter how simple the operation may be we are always finding a better way to do it. By seeing our brother practitioners operate we get new ideas which can be had in no other way.

The operations performed were as follows: Neurectomy, lower operation, Dr. Moore; operation for cure of cribbing habit, excision of a portion of the sterno-thyro-hyoideus muscle and resection of the motor branch of the spinal accessory nerve supplying the sterno-maxillaris muscle, anæsthesia being produced by intravenous injection of chloroform, Dr. Moore; peroneal tenotomy for stringhalt, Dr. Simpson; cunean tenotomy for spavin lameness, Dr. Patterson; peroneal tenotomy, Dr. Steel; ovariotomy, bitch, Dr. Moore; ovariotomy, bitch, Dr. Black.

W. A. HECK, *Secretary.*

RECENT investigations have shown that dairy cattle supplying Chicago with milk show a high percentage of tuberculosis.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular monthly meeting was called to order June 7th at the usual hour, President Robertson in the chair. Following roll-call was the reading of the minutes of the previous meeting, which were approved as read. The Executive Committee having no report, the President passed directly to the reading of papers.

Dr. Clayton read a translation from Prof. Lignière, by Adolph Eichorn, student at the A. V. C., entitled "A Contribution to the Study of Pneumonia in the Horse." * While this very instructive paper in itself did not offer much ground for discussion, it opened up a field that led into a most interesting and instructive one, which was freely indulged in by the members present and an M. D. who found himself accidentally in our midst and became extremely interested in the line of thought that was current, not only as the result of the aforesaid paper, but the one that followed by Dr. Keller on "Corns." *

Moved and seconded, that a vote of thanks be extended to Drs. Clayton and Keller for their essays. Carried.

The Committee on Legislation reported progress.

A communication was read from Prof. Liautard, in acknowledgment of the receipt of a certificate of honorary membership in the association; also from other members of the profession on association matters.

The Committee on Ways and Means (Dr. Bell, Chairman) reported that the affairs of the society were being looked after with jealous eyes.

Moved by Dr. Bell, that we adjourn to-night to meet on the first evening in September, just before the assembling of our guest, the American Veterinary Medical Association, at a special meeting, the place of meeting to be determined by the President. Seconded. Carried.

ROBERT W. ELLIS, D. V. S., *Secretary.*

NEW ENGLAND ALUMNI ASSOCIATION AMERICAN VETERINARY COLLEGE.

A meeting of the New England graduates of the American Veterinary College was held at the Copley Square Hotel, Boston, April 19, at the suggestion of the fraternity of that city, cards being sent out by Drs. Howard and LaBaw to some eighty

* Printed elsewhere in this issue of the REVIEW.

men. Sixteen were present, as follows: Drs. J. F. Winchester, Lawrence, Mass.; G. H. Bailey, L. H. Huntington, and George F. Wescott, Portland, Me.; Austin Peters, W. L. LaBaw, L. H. Howard, and A. J. Sheldon, Boston, Mass.; G. Bickell, Haverhill, Mass.; W. H. Dodge, Leominster, Mass.; J. J. Riordan, Beverly Farms, Mass.; George Stevens, White River Junction, Vt.; C. H. Tilson, Ashland, Mass.; J. H. Gardner, Norwich, Conn.; C. H. Adams, Danielson, Ct.; Madison Bunker, Newton, Mass., and J. J. Moynahan, Holyoke, Mass.

Dr. Howard was elected temporary chairman, and Dr. Peters Secretary. It was proposed by Dr. Winchester that a permanent organization be formed, which was well discussed and unanimously voted.

Dr. Howard proposed calling for nominations for President, and Dr. Winchester was elected, with Dr. Sheldon, Secretary-Treasurer.

It was unanimously agreed to incorporate under the laws of Massachusetts as "The New England Alumni Association of the American Veterinary College."

Dr. Peters then moved that the President, Secretary, and three members appointed by the President shall act as an Executive Committee. The President then appointed Drs. Bailey, Adams, and Dodge.

Dr. Gardner moved that each member attending the silver anniversary of the A. V. C. be considered an official delegate of this association. Carried.

Dr. Gardner moved that when a member of the Executive Committee found it inexpedient to attend a meeting of the association he shall delegate a proxy to serve *pro tem.*

After an hour of informal discussion, it was agreed to meet in Boston one year from date. The meeting then adjourned to a banquet, which, after many happy toasts, was concluded at about 9.30 P. M. A. J. SHELDON, D. V. S., *Secretary.*

NEWS AND ITEMS.

DR. E. E. SAYERS, of Algona, Ia., has been elected mayor of that city.

DR. W. B. SWITZER, formerly of Williamson, N. Y., has removed to Oswego.

DR. GEORGE B. BLACKMAN, formerly of Rome, Ga., has located in Blackman, Tenn.

"I CONSIDER THE REVIEW INDISPENSIBLE. Would not be without it for double the price."—*S. D. Brown, Hamilton, Mo.*

"NO ONE practicing veterinary medicine can afford to be without your very valuable journal."—*B. F. Minich, Columbia, Pa.*

DR. GEO. W. BUTLER, of Circleville, Ohio, has been appointed Assistant Inspector in the Government Meat Inspection Service at Milwaukee.

DR. JOHN R. MOHLER, Microscopist in the Bureau of Animal Industry, has been transferred from Milwaukee to the Department at Washington.

DR. TAIT S. BUTLER, of Mississippi, has accepted an appointment in the Bureau of Animal Industry and has been assigned to duty at Indianapolis.

"I HAVE TAKEN THE REVIEW FOR 16 YEARS and would not be without it—all veterinarians will find it a complete library." —*H. D. Galbraith, Greensburg, Ind.*

AT the Iowa Swine-Breeders meeting, held at Des Moines, June 13, Prof. W. B. Niles, of Ames, read a paper entitled "Serum Treatment for the Diseases of Swine."

GEORGE G. VAN MATER, M. D., D. V. S., professor of ophthalmology at the A. V. C. and author of "Veterinary Ophthalmology," was married to Miss Lillie V. Blinn, of Brooklyn, N. Y., on June 28th.

THE "BOB VEAL" BUSINESS is doomed in New York State. Governor Roosevelt has put his signature to a bill by which dealers in bob veal not only run the risk of having their stuff seized, but liable to a fine of from $25 to $100.

DR. L. MCLEAN, of Brooklyn, who conducted the Brooklyn Veterinary Hospital for many years at 14 Nevins Street, has removed to Carlton Avenue, where he has purchased and enlarged the former infirmary of Thomas Robertson, M. R. C. V. S.

DR. J. H. MCNEAL, late resident surgeon of the Veterinary Department of the University of Pennsylvania, has received an appointment under the Bureau of Animal Industry and has been assigned for duty to Buffalo. He is succeeded at the University by Dr. W. W. Martin, of Philadelphia.

DR. H. L. RAMACCIOTTI, of Omaha, Neb., has been appointed veterinarian to the Greater American Exposition at Omaha for 1899. He declares that the show will be better than the one in 1898, which so many of the members of the A. V. M. A. enjoyed last fall.

ROBERT JENNINGS, JR., V. S., A SUICIDE.—In Pittsburg, Pa., this well-known veterinary surgeon ended his life on June 22d, by taking a dose of prussic acid with suicidal intent. He was to have been tried that day on a charge of having attempted to kill his wife, the provocation for which consisted in a mild upbraiding of him for intoxication.

THE AMERICAN TROTTER AT THE PARIS EXPOSITION.—There will be six classes for American trotting-bred horses at the Paris Exposition of 1900—two in the breeding rings and four in the speed department. In the latter the classification is by height instead of by previous race records, in accordance with usual French usage. Only stallions and mares are eligible.

TO FIGHT TUBERCULOSIS IN CHICAGO.—The Chicago Veterinary Society has appointed the following committee to take steps toward the passage of a city ordinance requiring some form of inspection of the dairies supplying the city with milk: Drs. H. D. Paxton, A. H. Baker, James Robertson, L. A. Merillat, Joseph Hughes, and R. G. Walker. The committee is known as the Tuberculosis Committee.

DR. WM. HERBERT LOWE has equipped the Paterson Veterinary Hospital with every modern appliance and convenience for the care and treatment of sick and disabled horses and dogs, including a veterinary ambulance complete in every detail and costing over $1000. Besides doing the hospital service, the ambulance will be run for any practitioner in the city or surrounding country that may need such services.

ANTHRAX REPORTED TO EXIST AMONG CATTLE IN CUBA. —*Washington, June 23.*—The Department of Agriculture has been informed by prominent planters and cattlemen of Cuba of the existence of anthrax among the cattle there. With the report comes a request that all cattle shipped from Texas to the island be vaccinated. The Department of Agriculture will take no steps until it has been definitely settled whether black-leg or anthrax has broken out among the Cuban cattle.

THE MISSOURI VALLEY VETERINARY MEDICAL ASSOCIATION held its fifth annual meeting in St. Joseph, on Monday evening, June 26, when the following literary programme was announced to be be carried out: "Biology of Pathogenic Micro-Organisms," by Dr. Henry J. Washburn, of St. Joseph; discussion led by Drs. John Forbes and S. E. Bennett. "Cotton-Seed Disease in Cattle," by Dr. Frank C. McCurdy, of Kansas City; discussion led by Dr. S. Stewart. "Practicability of Antiseptics in Veterinary Practice," by Dr. H. G. Patterson, of

St. Joseph; discussion led by Dr. Sidney L. Hunter. "Gangrenous Grease," by Dr. Robert C. Moore, Kansas City; discussion led by Dr. J. B. Black. A surgical clinic was held at 217 South Seventh Street, beginning at 10 A. M., and the literary programme was carried out in the evening.

THE AUTOMOBILE.—The Board of South Park Commissioners, of Chicago, has prohibited automobiles or motocycles from using the boulevards and parks under its control. This action is in line with that taken by several Eastern cities. The ground of the prohibition is that horseless carriages are dangerous in that they tend to frighten horses and discourrge the use of the parks by women and children. The adoption of such a rule aroused a lot of newspaper talk, and test cases have already been started in the courts. A similar rule is in force in Central Park, New York, and there is the usual protest. The status of the horseless carriage will doubtless have to be settled in the courts, but until they are brought to a state of practical perfection the question will not press for consideration. It is announced that a line of horseless cabs will soon be put in service in this city, but it is by no means certain that they will prove a success. One of the leading firms of retail merchants in Chicago tried the horseless carriage in its delivery service, but abandoned them, as they were too much trouble to maintain even as advertisements.—*Breeder's Gazette.*